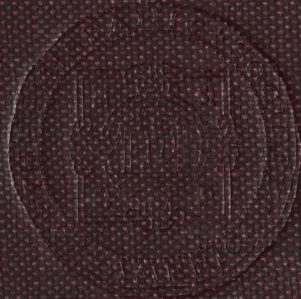


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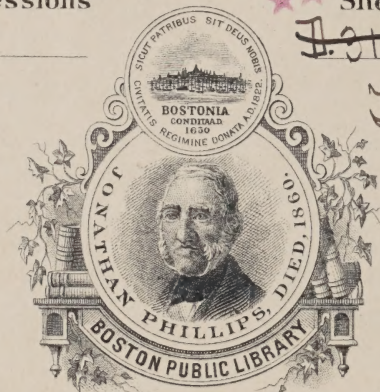


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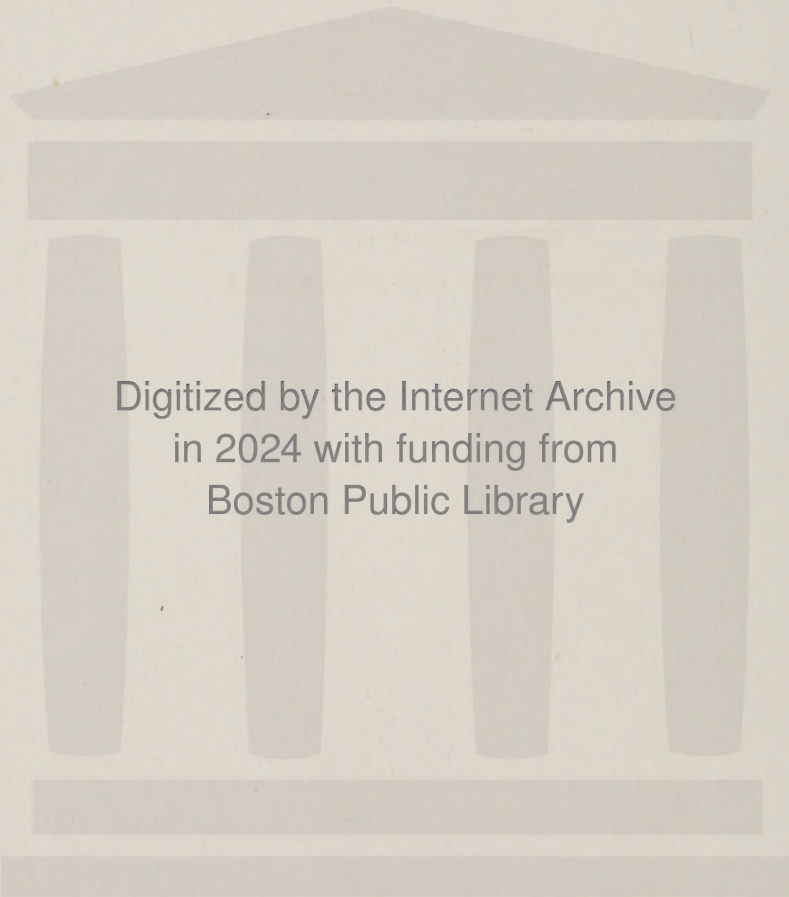
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Genoese World Map, 1457



GENOESE WORLD MAP

1457

FACSIMILE

AND CRITICAL TEXT INCORPORATING IN FREE TRANSLATION
THE STUDIES OF PROFESSOR THEOBALD FISCHER
REVISED WITH THE ADDITION OF
COPIOUS NOTES

BY

EDWARD LUTHER STEVENSON, PH.D.

ISSUED UNDER THE JOINT AUSPICES OF
THE AMERICAN GEOGRAPHICAL SOCIETY
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GENOESE WORLD MAP OF 1457

GENOESE WORLD MAP OF 1457

TO this map, which appears to be one of Genoese origin, a peculiar interest attaches by reason of its age and the character and fullness of its records. The author is unknown. Its date of execution, which is inscribed on the left, has been interpreted by some students as 1417, by others as 1447, but a careful examination of the map five years since enabled the author of this paper to confirm the reading of Professor Uzielli, who found it to be 1457.¹

The map belongs to a period of transition. Ptolemy had been recovered and was becoming anew a teacher of geography to the peoples of Europe.² Prince Henry's explorers were now feeling their way down the coast of Africa, and through the word of their discoveries were

¹ The following authorities accept 1417 as the correct date of the map: Zurla: *Di Marco Polo*, II, p. 397; Baldelli Boni: *Il Milione di Marco Polo*, I, p. clxiv; Hommaire de Hell (in *Bulletin de la Société de Géographie de Paris*, I, p. 297). Professor Fischer gives it as his opinion that 1447 is the correct reading. It can hardly be doubted that the date as recorded is 1457, the figure 5 being written thus, 4, according to the practice of the time. The legend in which the date appears is given on page 10.

² The influence of Ptolemy's *Geography* on what we may call modern exploration and discovery began in the early fifteenth century with its translation from the Greek into the Latin. The work of translating undertaken by Emanuel Chrysoloras, who died in 1415, was completed by Jacobus Angelus. The oldest known copy of this Angelus translation, dated 1427, may be found in the Nancy Library. It is on this translation that most of the fifteenth-century editions of Ptolemy's work are based.

contributing a fresh interest to those eager to learn of regions that were remote.¹ Central and eastern Asia, the islands of the Indian Seas and of the neighboring eastern waters, while yet the home of myths and marvels, were rapidly becoming better known to the West through the reports of traders and travelers. Our map-maker surpasses his contemporaries, as Professor Fischer has noted, in exhibiting an effort to bring into harmony the ancient and the medieval geographical ideas with those of his own day. For this, also, the map is one of striking importance. It is now the property of the Italian Government, and is to be found in the *Biblioteca Nazionale Centrale* of Florence, being catalogued *Sezione Palatina No. 1 Planisfero Mediceo*.

The map is not well preserved, a fact due in part to careless handling, in part to its peculiar mounting which evidently is very old. To prevent the crinkling of the parchment, as would appear, it has been mounted on four boards of suitable width and of about half an inch in thickness, which boards have been adjusted to fold. In certain parts the colors are yet brilliant, though softened with age; in other parts they have almost disappeared, and nothing has contributed more to this destruction than the rubbing of part on part. Most of the names can be read with ease; some, however, with the greatest difficulty; while a few are no longer legible.

The existence of the map has long been known, yet its importance has not been sufficiently emphasized. No better description of it has appeared in print than that given

¹ Prince Henry's interest in the Atlantic coast region of Africa dated from 1415; his explorations were actively prosecuted as early as 1434,

when Gil Ennes made a successful expedition southward. By 1455 discoveries had been made somewhat beyond Cape Verde.

by Professor Theobald Fischer in his "Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs."¹ Wuttke in 1870² and Lelewel in 1857³ published rather useless sketches of the map. The reproduction in the Ongania collection, to accompany which Professor Fischer prepared a text, is the best reproduction hitherto attempted, but this is considerably reduced in size and is scarcely legible, the art of photographing manuscripts in which color enters so largely being then in its infancy.⁴

The present reproduction, following the announced purpose in the issue of this series, is faithful to the original in every detail.⁵ Through the kindly offices of Professor Gustavo Uzielli, the Italian Government gave courteous consent to have the map photographed, and at the *Isti-*

¹ Theobald Fischer: *Sammlung mittelalterlicher Welt- und Seekarten italienischen Ursprungs und aus italienischen Bibliotheken und Archiven*, Venedig, 1886. A full expression of appreciation is here recorded of the courtesy extended by Frau Geheimrath Fischer for the privilege of using so much of her recently deceased husband's book as might be desired. His investigations form the basis of this study, and the greater part of the descriptive matter in his Chapter VII here appears in free translation, though somewhat altered in the order of presentation. Certain paragraphs have been expanded and revised, the legends have been reread and the revision carefully compared with the original through the courtesy of Dr. Salomone Morpurgo, Bibliotecario-capo of the Biblioteca Nazionale Centrale, Florence, and extensive notes have been added. Instances in which a difference of opinion in interpretation is entertained have been duly indicated. It is a pleasure to honor the memory of Professor Fischer, an in-

spiring teacher and an eminent investigator in the field of historical geography.

² In VI and VII *Jahresbericht des Vereins für Erdkunde zu Dresden*, 1870.

³ Lelewel: *Epilogue à la Géographie du Moyen-âge*, Bruxelles, 1857, pp. 167-184. Plate VI contains a small reproduction of the map.

⁴ *Raccolta di Mappamondi e Carte Nautiche del 13 al 16 Secolo*, No. X. Venezia Ferd. Ongania, 1881.

⁵ In 1906 the editor of this series of maps issued in facsimile an atlas containing twelve numbers under the title, *Maps illustrating Early Discovery and Exploration in America*, of the period from 1502 to 1530. In 1907, under the auspices of The Hispanic Society of America and of The American Geographical Society, the issue of a new series was begun with the *Map of the World by Jodocus Hondius, 1611*, and in 1908 there followed the second number, the *Marine World Chart of Nicolò de Canerio Januensis, 1502 (circa)*.

tuto Geografico Militari this part of the work of reproduction was done by its expert photographer.¹

Although drawn before the day of Columbus, its appearance in this series of maps illustrating early discovery and exploration in the New World may be justified on the ground that it makes record of explorations by land and by sea which lead us directly into the day of New World discoveries.

It is a much less pretentious map than that drawn by Fra Mauro,² but it is of almost equal date and not second to it in scientific importance. There is evidence that its author was better informed on certain geographical matters than was the monk of Murano, as, for example, concerning certain European, African, and Indian contour features, and that the peculiar form he chose for his map had less influence in leading him to distort what could then be called remote regions than had the circular form which Fra Mauro chose.

In the Catalan map of about 1450—remarkable map that it is and all too little known—there is perhaps less than in our map exhibiting the struggle of the ancient, the medieval and the modern geographical ideas, so pronounced in those years which were the years of transition, as I have stated.³

Bianco's maps reach out farther into the Atlantic than

¹ The photographic negatives were made in 1905.

² The Fra Mauro map, now preserved in the Grand Ducal Palace of Venice, was reproduced by Santarem in his great atlas. See Zurla: *Il Mappa-monde di Fra Mauro*, Venezia, 1806. It appeared in photographic reproduction, greatly reduced in size and not easily legible, in the Ongania collection, No. XV.

See reproduction facing p. 4.

³ See Kretschmer: *Die Katalanische Weltkarte der Biblioteca Estense zu Modena* (in *Zeitschrift für Geschichte der Erdkunde zu Berlin*, 1897, S. 65-111, 191-218), with a reproduction in colors of the chart, two thirds of the original size. In this monograph we have a very excellent critical study of a most important document.



Map of Fra Mauro, 1459
[Oriented in original with south at top]

does our Genoese cartographer's map, and include islands apparently beyond the horizon of those explorers who were inclined to tell only a plain, unimaginative tale of their discoveries, and Bianco's maps are likewise less truthful in their record concerning the regions of the west African coast and of the far East.¹

Presenting certain features which bear striking resemblance to the Dulcert map of 1339,² and to the Catalan map of 1375,³ it gives, very naturally, later record.

The map is elliptical in shape, having a major axis measuring 81 cm. and a minor axis measuring 42 cm.⁴ It therefore indicates the longitude of the habitable world as about twice that of the latitude. It is, however, but mere conjecture to assert that our draughtsman had a Marinus map before him while working out his sketch, though it conforms to the geographical notion of that ancient cartographer.⁵

An elliptical shape is not altogether common to the maps of the period, nor to those of the earlier centuries, which

¹ Bianco's map of 1448 belongs to the *Biblioteca Ambrosiana* of Milan. It appears in the Ongania collection as No. XI. Its most interesting feature is the representation of land to the west of Africa, "1500 miles distant," according to the accepted interpretation of a legend near it. See Yule-Oldham: *A Pre-Columbian Discovery of America*. (In *The Royal Geographical Journal*, 1895, pp. 221-233.)

² Original in the Bibliothèque Nationale, Paris, and reproduced and described by Hamy: *La Mappemonde d'Angelino Dulcert*, Paris, 1903.

³ Original in Bibliothèque Nationale, Paris. The best reproduction of this chart may be found in *Choix de documents géogr. conserv. à la Bibliothèque Nationale de Paris*, 1883.

Cordier: *L'Extrême-Orient dans l'atlas catalan de Charles V*, 1895, presents an interesting study of its eastern Asiatic section.

⁴ The size is inaccurately given by Fischer as 0.750 m. long by 0.370 m. broad.

⁵ Fischer quotes here from Masudi the following: "I have seen these [seven] climates illuminated in divers colors in many books, but the best I have seen of this character is in the treatise on geography by Marinus." As this was written in the tenth century, it seems to indicate that maps by Marinus were then known. The reference may be, however, to the work of Ptolemy. According to Marinus, the land area of the earth extends through 225 degrees of longitude.

have survived time's destruction. The St. Sever map of the Beatus type is a striking example of the oblong shape,¹ as is that of Henry of Mainz, though this draughtsman strangely gives to his map the greater length from north to south.² In one of the earliest references to map construction which we possess, Herodotus criticizes the maps of his day, which were "circular as though turned by a lathe," but he does not tell us how he thinks maps should be constructed.³ A form common for world maps of the later middle ages was that approaching the circular.⁴ An example of this circular form we have in the Bianco map of 1436,⁵ as also in the anonymous Catalan map-maker's work of circa 1450. Fra Mauro's great world map of 1459 is circular, as are the maps of Leardo.⁶ It is, however, worthy of note that, with scarcely an exception, the so-called circular maps have a diameter from east to west slightly longer than that from north to south.

On the right, beyond the artistic border which entirely surrounds the map, and which is well preserved, a scale of miles is twice given with the legend, "pro c. miliaribs."⁷

¹ The original is in the Bibliothèque Nationale, Paris. A description and a reproduction in colors may be found in Miller: *Die ältesten Weltkarten*, I Heft.

² Original in Corpus Christi College, Cambridge, England. A description and a reproduction may be found in Miller, op. cit., III Heft.

³ Herodotus: *History*, IV, 36.

⁴ Isaiah's statement, "It is He that sitteth upon the circle of the earth," doubtless exerted much influence on certain medieval map-makers in determining the form of their world maps.

⁵ Original in the Marciana Library of Venice. See Ongania collection, No. I, for a reproduction.

⁶ The American Geographical Society possesses a fine map, by Leardo, of 1452. See reproduction facing p. 54.

⁷ Fischer has recorded the scale of the map as 1:30,000,000, and the entire world represented as occupying 200 degrees of longitude. The representation of a scale of miles is a feature of most portolan charts. See E. Steger: *Untersuchungen über italienischen Seekarten des Mittelalter auf Grund der kartometrischen Methode*, 1896; also Konrad Kretschmer: *Die italienischen Portolane des Mittelalters*, 1909, pp. 50-60, with bibliographical references. Nordenskiöld also gives extensive consideration to the question of scale and measurement in his *Periplus*.

On the upper left a trefoil ornament is drawn, over which is a scroll with a representation of the Genoese cross, and on the lower left is a similar ornament with a scroll on which is sketched what appears to be a conventionalized coat of arms or a representation of the Genoese city wall with the mountains in the background.

The map presents some of the features which are especially pronounced in the portolan charts.¹ Lines have been drawn blocking out the map in unequal sections, and compass lines are numerous with now sixteen, now less radiating from crossing points. While most of the towns indicated by name are coast towns, though less numerous than on portolan charts and very nearly all in red, many names also appear in the interior regions as in Europe, northern Africa and western Asia. As was yet the fashion,—a fashion strikingly pronounced in the middle ages and perhaps in Roman days,—the map is liberally ornamented with architectural subjects, with crowned kings, with marvelous animals of land and sea. Jerusalem is no longer the center of the world as in the Hereford² or the Ebstorf map,³ nor does the major axis pass through the Mediterranean.

A critical study of the map forces the conclusion that its author was remarkably well informed on geographical matters. He records numerous geographical notions of

¹ See E. L. Stevenson, *Portolan Charts, their Origin and Characteristics, with a Descriptive List of those belonging to The Hispanic Society of America*. Fifteen of these charts have been here reproduced. A brief bibliography is given, pp. 29-31.

² Original in the Hereford Cathedral, England. An excellent reproduction may be found in Santarem. See also, for a reproduction and a critical study of the map,

Miller: *Die ältesten Weltkarten*, IV Heft. Bevan and Phillot: *The Hereford Map, an Essay in Mediæval Cartography*, Hereford, 1874.

³ Original in Museum des Vereins für Niedersachsen, Hanover. Reproduced in colors, with critical text by Miller: *Die ältesten Weltkarten*, V Heft. In 1891 an excellent reproduction was issued by Ernest Sommerbrodt.

the middle ages,¹ having at the same time an acquaintance with the works of many who had made contributions to geographical science in the earlier centuries. He appears to have known his Pliny, whom he cites in his legends.² None, perhaps, of the early writers had influenced him more than had Ptolemy, yet we find him, for instance, discarding the Ptolemaic idea of an enclosed Indian Sea.³ Wherein he follows that geographical master it is not slavishly. His Caspian Sea is Ptolemaic, but he shows some acquaintance with the European northlands, which lands to the Greek geographer were unknown.⁴ He exhibits an advanced knowledge of India, of east and of west Africa, and yet he quotes Ptolemy as his teacher in support of certain of his records as to those regions, as will appear later.

In what may be taken to be a representation of the Gulf of Guinea, for example, appears the legend "Preter Ptolemei tradicionem est hic guffus sed pomponius eum tradit cum ejus insula." His "Ethiopia Egipti" is the Ptolemaic "Aethiopia infra Aegyptum," and he follows the ancient Greek geographer in his representation of the Mountains of the Moon and the lake sources of the Nile. His general outline of the Red Sea and of the Gulf of Aden is Ptolemaic, as is his Arabian Sea, Persian Gulf, Hither and Further India, and his division of Scythia into near and remote Scythia, though his coast of the Mediterranean and of the

¹ As the reference to Saint Thomas in India, to Alexander in various parts of central Asia, to the lost tribes of Israel, and to Gog and Magog.

² See, for example, the legend in the Indian Ocean taken from Pliny: *Natural History*, Bk. IX.

³ It was Ptolemy's idea as set forth

in his world map that between southern Africa and eastern Asia there is a land connection.

⁴ Maps of the Northland, clearly based upon actual knowledge, begin to make their appearance in the latter part of the fourteenth and in the early fifteenth century. See Fischer: *The Discoveries of the Northmen*.

Black Sea as well as that of the ocean from Cape Bojador to the British Islands and Holland is quite in accord with the portolan charts. As from a study of the maps of Bianco, so from a study of this map it appears evident that Ptolemy was measurably well known in Italy in the first half of the fifteenth century.¹

Our Genoese map-maker, however, not only shows himself indebted to the ancient and early medieval geographers for information, but he also shows himself indebted to travelers such as Marco Polo,² and in particular to Nicolò di Conti, who returned to Italy in 1444 after an absence of twenty-five years, in which time he journeyed through Asia, Africa, and the Indian Seas.³ It would be difficult to trace every detail of the map to its source. Such a map-maker as was this Genoese could not be classed with the cloister cartographers of the middle ages. We are safe in

¹ See note 2, p. 1.

² The best English edition of Marco Polo's account of his travels is that by Sir Henry Yule, bearing title, *The Book of Sir Marco Polo the Venetian concerning the Kingdoms and Marvels of the East*, revised throughout by Henry Cordier, 1903, 2 vols. This is a work unsurpassed in careful and searching scholarship. Marco Polo's story is the most important contribution to medieval geography. The period included in the narrative is from 1260 to 1295.

³ Nicolò di Conti was a Venetian of noble family. After a residence of some years as a merchant in Damascus, he undertook an expedition to the far East. In order to save his life, on his return journey he was compelled to renounce the Christian religion and to accept the Mohammedan faith. On reaching Venice, he besought absolution from Pope Eugenius IV for his apostasy, which ab-

solution was granted on condition that he should relate the story of his travels to Poggio Bracciolini, papal secretary, by whom it was written down in Latin. His story as told may have been somewhat altered by Poggio for literary effect. Ramusio, not being able to find Poggio's Latin account, printed in 1556, in the first volume of his *Navigazioni et Viaggi*, an Italian version of Conti's narrative, translated from the Portuguese. In 1723 Abbé Oliva published the original Latin account in an edition of Poggio's *Historia de Varietate Fortunæ*, and Kunstmann in 1863 published the Latin text in his *Kenntnis Indiens im 15 Jahrhundert*. In 1857, R. H. Major edited for the Hakluyt Society an English version from which the citations appearing in this monograph are taken. This work is referred to hereafter under the abbreviation *Hk. S.*

asserting that he made use of what he regarded as the most rational and reliable sources available in his day.

In a legend on the extreme left the author thus alludes to his map: "*Hec est vera cosmographorum cum marino accordata tradicio, quorundam frivolis narrationibus rejectis 1457*": "This is the true tradition of cosmographers in accord with Marinus, [marine charts?] their unreliable records being excluded, 1457."¹

¹ Lelewel gives the following reading for this legend: "*Hec est vera cosmographorum cum marino accordata [mundi, or terrae?] descriptio quotidie frivolis narrationibus in jectis [apposita, or correcta?] 1447.*" The reading here accepted is that of Professor Fischer with the exception that "*tradicio*" is substituted for "*terra*" and "*1457*" for "*1447.*" It is, however, doubtful whether the word "*marino*" should be translated "*Marinus.*" Lelewel has suggested that the reference here is to the marine charts or to seamen. This appears to me to be an acceptable reading. Portolan

charts being at this time in such general use by seamen, the cosmographer apparently refers to his chart as drawn according to the knowledge of the seamen of his day. In the translation of the several legends to be found on the map, as these translations appear in the following pages, it is here distinctly stated that in some cases the reading is conjectural. In not a few of these legends there are words no longer legible; not infrequently there is evidence that the map-maker was not a skilled Latinist, and it is quite impossible to translate his sentences literally.



EUROPE

TURNING first to Europe for a consideration of the details of the map, it will be noted that the contour of this continent is drawn with a nearer approach to accuracy than is true of the other continents, our cartographer's greatest errors appearing in the regions which were beyond those recorded by Ptolemy and the portolan chartmakers.¹ By reason of the limited space, the geographical details inserted in this section of the map are not numerous; indeed, of no part of the map can it be said that the author has crowded it with details.²

The only mountains indicated in Europe are the Alps, which are made to sweep in a somewhat irregular curve around the north of Italy and the head of the Adriatic. The Rhone, the Rhine, the Po and the Danube—the latter with an extensive delta—have been inscribed in a manner which leaves no doubt as to their identity, while into the Black Sea, which with the Sea of Azov is well drawn, flow the rivers Don and Dnieper, and into the Caspian Sea flows the Volga, though no names are affixed.

¹ The representation of the Scandinavian region gives evidence of an acquaintance with such cartographical records as those of Claudius Clavus. See Fischer: *The Discoveries of the Northmen*.

² The author has chosen in the main

to inscribe that information which would be useful rather than merely ornamental. His map, however, as before stated, is one of a transition period, retaining many of the illustrative features of earlier medieval maps.

In the northern part of Europe we find sketched a polar bear "Forma ursorum alborum," and an ermine or sable, animals whose valuable pelts were obtained by the Hansa of Novgorod and sold by them in Bruges to the Italians.¹ Here we also find the representation of a ruler, "Lordo Rex," with genuine Mongol features, the chief of the Golden Horde.² Between the Dniester, at that time the western boundary of the Mongol empire, and the Dnieper is the city "Lordo," a name which often appears in references to treaty relations established between the Mongols

¹ In referring to the Tartars of the far North, Marco Polo states that "you find in their country immense bears entirely white, and more than twenty palms in length" (Yule: *Marco Polo*, Vol. II, p. 479), and concerning the "Land of Darkness" he says that its "people have vast quantities of valuable peltries. Thus they have those costly sables of which I spoke, and they have the Ermine, the Arculin, the Vair, the Black Fox, and many other valuable furs. They are all hunters by trade, and amass amazing quantities of those furs. And the people who are on their borders, where the light is, purchase all those furs from them; for the people of the Land of Darkness carry the furs to the light country for sale, and the merchants who purchase these make great gain thereby, I assure you." Yule: *Marco Polo*, Vol. II, p. 484.

Ibn Batuta writes concerning this traffic in furs as follows: "When the travelers have accomplished a journey of 40 days across this desert, they encamp near the Land of Darkness. Each of them leaves there the merchandise which he has brought with him, then all return to their quarters, and on the following day come back to examine their goods. They find laid beside them the skins of the

Sable, the Vair and the Ermine. If the owner of the goods is satisfied with what has been placed beside his parcel, he takes it, if not he leaves it there. The inhabitant of the Land of Darkness may increase the objects he has left [on another visit], but, as often happens, he may take them all away, and leave that of the foreign trader untouched. In this manner they conduct their trade. The people who go thither never know whether those with whom they buy and sell are goblins or human beings, for they never see any one." See *Voyages d'Ibn Batoutah*, French translation by C. Defrémery et le Dr. B. R. Sanguinetti, Tome II, p. 401.

² The "Golden Horde" is a term applied to the empire of the Kipchak, founded on the conquest of Batu Khan, leader of the Tartar invasion of Europe, beginning about 1237. This empire in time embraced a large part of modern Russia and of Siberia about as far to the eastward as the Irtysh River. Batu established himself on the lower Volga at Sara (Sarai), which he made his capital. Because of the splendor of his camp it was called "Sir Orda," or Golden Camp. Under Ivan III the rule of the Mongols was overthrown in Russia.

and the people of the Occident. It was the military camp of the nomads of Asia. Between the Dnieper and the Don the author has made a suggestive reference to the custom of that migratory folk of transporting their houses about with them on wagons drawn by oxen, a custom also attributed to the early Teutons and the Huns.¹ Such a wagon with driver and oxen, rather crudely sketched, is represented moving eastward, near which appears the legend, "Ubi lordo errat." A good picture of a Mongol appears on the eastern shore of the Caspian Sea, and also one west of the Black Sea, being drawn about the time of the destruction of their rule. The Italians were then in close relations with the Golden Horde from Moncastro, Kaffa, Sudak, and Tana as centers, and were, therefore, in a position to know intimately their customs and manner of life. We are in possession of numerous descriptions of

¹ In writing concerning the Huns in the latter part of the fourth century, Ammianus Marcellinus, Book XXXI, Chapter II, says: "They have no settled abode, but are homeless and lawless, perpetually wandering with their wagons, which they make their homes; in fact, they seem to be people always in flight." Similar statements are to be found relative to the early Teutons.

"Some of these tabernacles may quickly be taken asunder, and set together again, and are carried vpon beastes backs. Other some cannot be taken in sunder, but are stowed vpon cartes. And whithersoever they goe, be it either to warre, or to any other place, they transport their tabernacles." Carpini in *Hakluyt Society Publications*, 1903, edited by Beazley, p. 109.

"The sayd houses they make so large that they containe thirtie foote in breadth. For measuring once the

breadth betweene the wheeleruts of one of their cartes, I found it to be 20 feete ouer: and when the house was vpon the carte, it stretched ouer the wheelles on each side five feete at least. I told 22 oxen in one teame, drawing an house vpon a carte eleuen in one order according to the breadth of the carte, and eleuen more before them; the axletree of the carte was of an huge bigness like vnto the mast of a ship. And a fellow stood in the doore of the house vpon the forestall of the carte driuing forth the oxen." Rubruquis in *Hakluyt Society Publications*, 1903, edited by Beazley, p. 188.

See also Æschylus: *Prometheus Vincit*, 709-710; Strabo, VII, 3-9. There is an interesting reference to the same subject in Herodotus, Book IV, Chapter XLVI. Yule: *Marco Polo*, Vol. I, p. 255, gives a picture of such a Tartar outfit, apparently taken from the description of Rubruquis.

the Tartars in Europe at the time in which our map was constructed.¹

Many regional names appear and many cities are made prominent in each of the continents through the sketch of a building, which building sometimes is a castle, sometimes is a church or cathedral, sometimes is a monastery. Regional names conspicuous in western Europe are "Portugal," "Hispania," "Arago," "Catalonia." Here we also find "Lisbona," "Sibilla," "Taragona," "Barcelona," "Saragosa," and a few other names which are illegible.

England, Scotland, and Ireland are represented as on the portolan charts of the period, over each of which flies a pennant. To the south of Ireland, in the ocean, we find the following legend: "De Ybernia duo narrantur unum quod in ea est abissus dictus putens sancti patritij per quem ad partes inferoram descendit[ur?] multaque miranda in eo vident sepius et narant incole. Aliud est quod eorum arbores quedam fructus ferant qui intra marcescendo vermen generant qui inde crescendo pilosus vel plumatus tandem alatus effectus tanguam avis evolat": "Concerning Ireland two [stories] are told. One of these [asserts] that there is an abyss called the well of St. Patrick through which one descends into the lower regions. In this [well] the inhabitants often see many wonderful things and tell about them. The other [story relates] that certain of their trees bear fruit which, decaying within,

¹ The account of the Franciscan John de Plano Carpini, who started in 1245 to visit the camp of the Mongols, is very interesting and instructive, as is also that of William de Rubruquis, who in 1252 was sent to the Mongol country by King Louis IX. Interesting references may be found in the account of the missionary journeys of Andrew de Longumeau, also sent by King Louis IX;

in the account of John of Monte Corvino; in the records of the Dominican pilgrim Ricolo of Monte Croce, and of the Spanish nobleman and diplomat, Ruy Gonzales de Clavijo. In his *Dawn of Modern Geography*, Vol. III, Mr. Beazley has given an excellent summary of the services of the several travelers here referred to, with references.

produces a worm which, as it subsequently develops, becomes hairy and feathered, and, provided with wings, flies like a bird."

In France appear the names "Gascona," "Lengadoc," "Normania," "Baiona," "Bordeaux," "Tolosa," "Narbona," "Montpellier," "Arguesmortes," "Avenio," "Massillia," "Lion," "Dijon," "Bourges," "Renes," and a few undecipherable names.

In Italy we find "Italia," "Masca," "Calabria," "Sicilia," "Sardinia," "Corsica," "Niza," and "Venezia," which last our author has made especially prominent, while Genoa itself has been omitted altogether. The names of nine cities in addition are given in northern Italy: "Florentia," "Ravenna," "Ancerra," "Borletta," "Bor[i]," "Rana," "Galta," and "Napoli," with one illegible.

In central and eastern Europe we find "Bavaria," "Boemia," "Prutenia," "Bruges" (Brügge), "Dancic," "Famosura" (Frankenburg?), "Poana," "Praja," "Ratisbon," "Inbrunch," "Vienna," "Pruna," "Potavia," "Ungaria" with "Juanin" (Raab), "Burgaria," "Polonia," "Carcovia," "Rossia," and near this last the classic names "Sormatia prima" and "S. secunda," the first for the land between the Dnieper and the Don, the second for the region east of the Volga. On the lower Volga lies the city "Sara" and also "Saratellis." Sara was the capital of the Kipchak, and in the fourteenth century was a city of great importance, but in 1395 was destroyed by Timur.¹ "Saratellis," if this is a correct reading of the name, is probably the

¹ Timur, or Tamerlane, founded the second great Mongol empire in central and western Asia. Sarai, twice captured by Timur, was completely destroyed by him. This city, on the Akhtuba branch of the Volga River, had been founded by Batu Khan, and there he had fixed his capital, as be-

fore stated. The town appears to have been very large, having at one time important markets. Ibn Batuta, writing of his visit to this city, describes it as very populous and attractive, adding that it required from early morning until past noon for him to traverse the city. His account

Saracanco of Balducci Pigolotti. According to Pigolotti, Sara could be reached in a day by water from Astrakhan, Saracanco in eight days by water or by land.¹ The position of these places on our map appears to confirm the well-founded opinion of Yule that we should distinguish between two cities designated Sara: an older one, a day's journey from Astrakhan, which clearly appears on our map as a city at the mouth of the Volga, and a later one which appears farther up-stream, that is, Saracanco, a name which may signify Great Sara.² The ruins of the former are near the present city Selitrenoie, of the latter near Tsaref.

We also find the region "Zichia" designated on the north and northwest slope of the Caucasus, and, on the Black Sea, "Savastopoli," "Kaffa," "Pidea," "Flordelis," "Turlo" and "Moncastro."

On the Hellenic-Slavic peninsula we find the names "Sclavonia" and "Albania," which had but recently withstood an attack of the Turks; here also are "Macedonia," "Grecia" and "Morea." Of the cities in this region we find represented "Varna," especially distinguished by reason of the battle of 1444; "Vicina" (Widdin), often mentioned in the records of the battles of that period; "Belgrade," which likewise after 1440 suffered from repeated attacks of the Turks; "Enes" (Enos) and "Galipoli," which was on the highway of the Turks in their marches westward into Europe; also "Salonichi," with two additional but unde-

of this Kipchak capital is interesting. Defrémery et Sanguinetti: *Voyages d'Ibn Batoutah*, Vol. III, pp. 447, 448.

¹ See, for a partial translation of Pigolotti's handbook for merchant travelers, Yule: *Cathay and the Way Thither*, Vol. II, pp. 287-308; also

Beazley: *Dawn of Mod. Geog.*, Vol. III, pp. 324-332, for an analysis and an estimate of Pigolotti's contribution to geography.

² Yule: *Marco Polo*, Vol. I, pp. 5, 6. An interesting note may here be found bearing upon the subject.

cipherable names in Greece. From the names given which so frequently appear in the history of the period that of Constantinople is omitted.¹

¹ Though not a conclusive argument, it seems probable that our author would have inserted Constanti-

nople in his map, had it been drawn as early as 1447. In 1457 that city had been lost to the Turks.



ASIA

IN the representation of the Asiatic continent the influence of Ptolemy on our cartographer is more marked, both in the general outline of the land areas and in the representation of the mountain-ranges. The southern coast of the continent, from Arabia and the Persian Gulf to Further India, exhibits the Ptolemaic influence in particular, though our Genoese gives evidence of possessing a good knowledge of some of the most recent reports of travelers. The remarkably strong ebb and flow of the waters in the Persian Gulf at the mouth of the Euphrates and Tigris rivers, observed by Conti,¹ is thought by our cartographer worthy of mention: "*Sinus persicus in quo mare fluit et refluit velut oceanus*": "The Persian Gulf, in which the sea ebbs and flows as in the ocean." Such a map record seems to appear here for the first time.

The peninsula Guzerat is better drawn than by Ptolemy, and the Bay of Cambay appears as a deep inlet of the ocean into which a broad river—perhaps the Mahi—empties. This section of the coast could not well remain unknown to travelers coming from the mouth of the Indus River. In the place of Ptolemy's Taprobana two islands are represented, the larger of which, though appearing in outline to be Taprobana, is rather to be taken as a representation of Sumatra, while the smaller bears the name

¹ Conti refers to the "Persian Gulf, where the sea rises and falls in the manner of the Atlantic Ocean." *Hk. S.*, p. 5.

Ceylon. A legend near this reads: "Xilana insula trium milium miliariorum ambitum continens, rubinis, saphiris, granatis et oculis gate decora, cinamomum ex arboribus salicibus nostris similibus gignit. In insula hac lacus est in cuius medio civitas nobilis cuius incole astrologie dediti omnia futura predicunt": "The island of Ceylon, having a circumference of three thousand miles, is rich in rubies, sapphires, and cat's-eyes, and produces cinnamon from trees similar to our willow tree. In this island there is a lake, in the middle of which is a noble city whose inhabitants, given over to astrology, predict all future events." The position of Ceylon was now well known, being here placed to the east of a peninsula which we can recognize as the southern point of India. In this as well as in other parts of extreme southern Asia our cosmographer seems especially to exhibit an acquaintance with the record of the distinguished Italian traveler Nicolò di Conti.

In the interior of Ceylon a lake appears which may owe its origin to a statement made by Pliny or may be an attempt to represent some one or more of the numerous artificial reservoirs or tanks for which the island is famous.¹

In their outlines there is a certain similarity between the

¹ Pliny, referring to Taprobana, says that "the age and armes of Alexander the Great were the first to give satisfactory proof that it is an island." He also states, referring to an embassy which came from this distant island to Rome in the time of the Emperor Claudius: "They informed us that in the interior [of the island] there is a lake called Megisba three hundred and seventy-five miles in circumference and containing islands which are fertile." Pliny: *Nat. Hist.*, Book VI, Chapter xxiv. Conti records that "in the middle of the Gulf [Bay of Bengal] there is a very noble

island called Zeilan, which is three thousand miles in circumference, and in which they find by digging, rubies, sapphires, garnets and those stones which are called cat's-eyes. . . . In this island there is a lake, in the middle of which is a city three miles in circumference." *Hk. S.*, p. 7. Marco Polo says the island is two thousand four hundred miles in circumference, but observes that in old time it had a circuit of three thousand six hundred miles. See Yule: *Marco Polo*, Vol. II, pp. 312-316, for a chapter on "Seilan." Ceylon was Ptolemy's Taprobana.

islands Ceylon and Sumatra as represented by our Genoese map-maker and the same islands as they appear on the maps of Ptolemy. The somewhat lengthy legend here reads as follows: "Insularum notarum Traprobana maior que sexdecies contenis milibus passuum patere ambitu affirmatur. Post hanc Anglia inde Java maior, inde minor, post eas Ibernica et Xilana, post quam Cecilia, post hanc Sardinia, inde Corsica, inde Cypricus et Candia. Huius Traprobane que eorum lingua Cimiteria dicitur incolae crudeles aures magnas, in auribus ornatas habent linteis vestiti, ydolatre omnes, pipere, camphora et auro plurimo redundantes, piperis arbor edere similis grana ut iunipery ferens. Huius insule partem antropophagi habitant continue cum vicinis bellantes capita humana pro thesauro recondunt esis carnibus et qui plura capita habuerit ditior est": "Of the islands which are known, Taprobana is said to have a circumference of more than sixteen hundred miles, next to which is Anglia, then Java the Greater and Java the Less: after these islands Ceylon, then Sicily, and after this Sardinia, and following in order, Corsica, Cyprus and Candia. The inhabitants of this Taprobana, which in their language is called Ciamutera, are barbarians, having large ears in which they wear ornaments, and they dress in linen clothes. They are all idolaters. They have an abundance of pepper, camphor and much gold. The pepper tree when it bears has seeds like the juniper. Cannibals inhabit a part of this island, who, continually waging war with their neighbors, make a collection of human heads as treasures, and he who has the most heads is the richest." This description of Taprobana appears clearly to have been taken from Conti, and it is very interesting to observe that our cartographer, not in a very successful manner, has attempted

to bring the report of Conti into accord with Ptolemy. Ptolemy's Taprobana, by which we are to understand Ceylon, is to our author Sumatra, as the legend above indicates, and near by he places his Ceylon, although Conti expressly states that with favorable wind he traveled in twenty days from Ceylon to Sumatra, leaving Andaman, inhabited by cannibals, on the left of his course.¹

The name Sumatra, which our cosmographer, together with Conti, considers to be the native name, seems first to have become a more or less familiar one in Europe in the fourteenth century.² In the story of Ibn Batuta it appears as the name of a city;³ Odorich of Pordenome refers to it as the name of a locality;⁴ while in the story of Conti for the first time it clearly appears as the name of an island. According to a conjecture of Yule, the name Sumara, which appears in a manuscript of Marco Polo as the name of one of the kingdoms of the island, is only a corruption of Sumatra.⁵ Marco Polo, the first traveler from the west who seems to have brought definite word from Sumatra, called it Java the Less, under which name, however, according to our cosmographer, we are to understand Java or Borneo. Conti gives to the island a circumference of about two thousand miles, as does Marco Polo, which is

¹ On leaving Ceylon, Conti "sailed for a space of twenty days with a favorable wind, passing on the right of an island called Andamania, which means the Island of Gold, the circumference of which is eight hundred miles." This group he thought to be one island. *Hk. S.*, p. 8. Major's edition of Conti erroneously makes it appear that he had the island "on his right hand." On this point it does not appear that our map-maker followed Conti.

² Conti refers to "the island of Ta-

probana, which island is called by the natives Sciamuthra." *Hk. S.*, p. 8. "Taprobana," he says, "is six thousand miles in circumference."

³ Ibn Batuta writes of having spent fifteen days at the court of Samudra. Defrémery et Sanguinetti: *Voyages*, Vol. IV, pp. 238, 306.

⁴ "In the same island [Lamori] towards the south is another kingdom by name Sumoltra." Yule: *Cathay*, Vol. I, p. 86.

⁵ See Yule: *Marco Polo*, Vol. II, pp. 294 et seq.

very nearly correct. In its outlines Further India is Ptolemaic, a fact which is especially noticeable in the very prominent peninsular character. It stretches toward the south, terminating in a prominent Golden Chersonese, a name which the legend suggests: "*Hic copiose reperitur aurum cum jocalibus et lapidibus preciosis*": "Here gold is found in abundance with jewels and precious stones."

The long southern coast which, according to Ptolemy, makes of the Indian Ocean an enclosed sea, and which in part appears in the Edrisi and the Sanuto maps, has been omitted here, and the great gulf of Ptolemy on the east of the peninsula becomes in our map an open sea, corresponding to the account of Conti and other travelers, which sea had been found difficult of navigation because of continually unfavorable wind.

Concerning the two large islands lying off the east coast of Asia, a legend gives the following information: "*Hee insule Jaue dicte sunt quarum major tribus alters duobus milibus miliarum protendunter absuntque a continente mensis navigatione et ipsis centum miliaribus propinque. Istas nepharii et immundi habitant homines quibus hominem occidere pro ludo; uxores quotlibet sumunt*": "These islands are called Java, of which the greater in circumference is three, and the other two thousand miles. They are one month's journey from the continent, and are one hundred miles apart. Ignorant and wicked men inhabit these islands, who think it sport to kill a man. They have as many wives as they wish."

This legend, taken from Conti,¹ it seems should be con-

¹ "In Central India there are two islands towards the extreme confines of the world, both of which are called Java. One of these islands is three thousand miles in circumference, the

other two thousand. Both are situated towards the east, and are distinguished from each other by the names of the Greater and the Less. These islands lay in his route to the ocean.

sidered as referring to Borneo and Java, which he visited, though in outline there is an altogether incorrect representation of the islands. Further toward the southeast, in the ocean, lie two small islands likewise sketched from Conti's description,¹ which islands undoubtedly are intended to represent the Moluccas, a knowledge of which he first brought to Europe. Here a legend reads: "Sanday et Bandan dicuntur insule iste, nam Sanday crocea, nuces muscatas et macis, Bandan vero gariofilorum copiam ad Javas transmittunt utrisque incole nigri sunt. Bandan item triplicis generis habet psitacos, rubeos, croceosque rostro versicolores et albos. Albi namque galinis sunt pares qui transeuntibus locuntur et dant responsa": "These islands are called Sanday and Bandan. Sanday sends saffron, nuts, muscatas, and maces to the Javas, Bandan an abundance of cloves. The inhabitants of both are black. Bandan, moreover, has parrots of three kinds: red ones, those of variegated color with yellow beaks, and white ones the size of hens."

Conti did not himself visit these islands, though he gives their position as fifteen days' journey east of Java Major and Minor, to which their products were brought for transportation to the west. Cloves at that time came only from the small islands of the Moluccas lying west of Halmahera, which perhaps our author has attempted here to represent. The name Sanday is unknown, and Bandan is only a corruption, and should not be confounded with Banda, as cloves do not come from that island. The negro popula-

They are distant from the continent one month's sail, and lie within a hundred miles of each other." *Hk. S.*, p. 15.

¹ "At fifteen days' sail beyond these islands eastward, two others are found: the one is called Sandai, in which

nutmegs and maces grow; the other is named Bandan; this is the only island in which cloves grow, which are exported hence to the Java Islands. . . . The inhabitants of both islands are black." *Hk. S.*, p. 17.

tions of these islands are those driven out by the Malays, that is, they are the original black inhabitants of the Malay Archipelago, who in Conti's account are referred to in European literature for the first time, and who are now generally spoken of as the Asiatic Papuans, or Negritos. It is interesting that even to-day, after four hundred and fifty years, the original populations of the Moluccas and Halmahera still exist.

The first European who actually visited the Moluccas was the Italian Varthema,¹ about seventy years after Conti's expedition to the East. The islands were considered as lying on the boundary of the habitable and known world, and as marking the limit of navigation.²

It is not easy to determine the significance of a gulf which extends far into the east coast of Asia north of Borneo and Java. The gulf forms the boundary between China (Sine) and the forest region of northern Asia. On the southern shore near the mouth of the gulf lies the city "Pauconia." If we have here an attempt at a representation of the Gulf of Siam, the city Pauconia is probably Bangkok.³ We may have in this gulf one of the earliest cartographical representations of the Yellow Sea and the Gulf of Petchili.

The name Sine, or Sina, which was never used in the middle ages, and which in all probability our map-maker took from Ptolemy, suggests that the gulf is likewise from

¹ For a translation of Varthema's travels, with a preface by John Winter Jones, and edited with notes and introduction by George Percy Badger, see *Hakluyt Society Publications*, 1864.

² Conti states: "The sea is not navigable beyond those islands [referring to "Sandai" and "Bandan"], and the stormy atmosphere keeps navigators at a distance." *Hk. S.*, p. 17.

³ Marco Polo refers to a "fine city of Paukin," which is identified by Cordier as Pao-Ying-Hien, in latitude somewhat north of the mouth of the Yang-tse-kiang River. Though the names are similar, it is hardly probable the places are identical. Yule: *Marco Polo*, Vol. II, p. 152.

Ptolemy, and in order to find space for the new discovery it has been placed farther north.¹

The northeast coast of Asia is in part determined by the form of the map, and in part is arbitrarily drawn, as are also the numerous islands, not one of which we are able to identify. In the Indian Ocean there are legends and mythical animals. West of the Golden Chersonese is an animal with the tail of a fish, a humanlike head and large horns and ears, with outstretched arms so attached to the body as to make them serviceable in flying or swimming. A legend gives the following information: "Hec figura piscis nuper in Candia vacas circa litus maris pascentes de mari exiliens, invasit qui captus Veneciis delatus est cuiusque effigies configurata ad loca multa terre est transmissa": "This species of fish, recently [caught?] in Candia, feeds upon the meadows of the shore like cows. It was captured and exhibited to the Venetians. It was mounted and carried about to many parts of the country."

The reference appears to be to a marine animal, perhaps the dugong, which, resembling a cow and accustomed to graze in the fields along the seashore, was captured in the East and brought to Venice. That rare animals at the time of the construction of our map were brought to Italy, where they were viewed with astonishment by the natives, certain observations of Benedetto Dei bear witness.² Mention may be made of the peacock which he brought from Alexandria for Cosimo de' Medici; also of a chameleon, and, more important than all, of "un serpente di Br.[accî] otto e grosso 8.4 in circa con 100 denti e 111J gambe Iptero di gulto," which he seems to have brought to Florence from Beirut. We may have here a reference to the crocodile.

¹ See Ptolemy's Map 11.

² Amat di S. Filippo: *Studi Biografici e Bibliografici*, I, p. 153.

As these are yet to be found in northern Palestine in the Wadi Zerka district, it must have been altogether possible to obtain them in Beirut in that day.¹ Perhaps the suggestion was derived from Conti, who refers to a fabulous marine animal described to him in Further India, which at night came out of the sea and caught fish by artificial fire.²

One here recalls a passage in Marco Polo's narrative, wherein he gives warning that if travelers returning bring pygmies home with them, and assert that they come from India, the statement should not be credited.³ Similar marvelous beings are likewise represented in other parts of the Indian Ocean, such as an animal with the body of a fish and the head of a woman, that is, a siren; also a fish with a humanlike head and large fins with sharp spikes thereon. Near this monster is the legend: "Plinius 144 piscium ge-

¹ "The river Zerka, a torpid stream flowing through fetid marshes, in which reeds, canes and the stunted papyrus grow, and where alone in Palestine the crocodile is found." *Palestine Exploration Fund, Quarterly Statement*, 1874, p. 11.

² "Having quitted Coloën, he arrived, after a journey of three days, at the city Cocym. This city is five miles in circumference, and stands at the mouth of a river, from which it derives its name. Sailing for some time in this river, he saw many fires lighted along its banks, and thought that they were made by fishermen. But those who were with him in the ship exclaimed, smiling, 'Icepe!' 'Icepe!' These have the human form, but may be called either fishes or monsters, which, issuing from the water at night, collect wood, and procuring fire by striking one stone against another, ignite it and burn it near the water. The fishes, attracted by the light, swim toward it in great numbers, when

these monsters, which lie hid in the water, seize and devour them. They said that some which they had taken, both male and female, differ in no respect as to their form from human beings." *Hk. S.*, p. 19.

³ "I may tell you, moreover, that when people bring home pygmies which they allege to come from India, 't is all a lie and a cheat. For those little men, as they call them, are manufactured on this Island, and I will tell you how. You see, there is on the Island a kind of monkey which is very small, and has a face like a man's. They take these, and pluck out all the hair except the hair of the beard and on the breast, and they dry them and stuff them and daub them with saffron and other things until they look like men. But you see it is all a cheat; for nowhere in India nor anywhere else in the world were there ever men so small as these pretended pygmies." Yule: *Marco Polo*, Vol. II, pp. 285, 286.

nera enumerat, inter quos hunc serram nole describit asserens eum cum eius eumque crista serrata sepuis naves indorum frangere solo impetu, ac ubi serram infra ligna affixerit ab eis retentus evadere non valet se ipsum perimit": "Pliny enumerates 144 species of fishes, and among them he describes this swordfish, asserting that, with its swordlike beak, it often transfixes the ships of the natives of India by single attack; but when this fish becomes fast within [the ship's side] and is unable to escape, it kills itself."¹

Of particular importance are the other legends in the Indian Ocean apparently derived from Conti.

One of these reads: "In hoc mari australis poli aspectus navigant septentrionali absconso": "In the South Polar Sea they navigate with the North Pole not in sight."²

The other legend, near the picture of a three-masted ship, reads: "Indicus pelagus multis occupatur insulis, scopulis et scirtis, hec ideo eorum naves pluribus construuntur medianis quatenus si in aliqua parte frangantur pars reliqua ad eorum iter complendum sufficienter suppleat. Quas etiam pluribus malis de tribus ad X communientes velis quoque ex arundinibus et palmarum foliis contextis utentes velocissime suum curcum perficiunt. Et eis permaxime speciebus et ceteris aromatibus oneratis sepius ad Mechan Arabie applicantes mercatoribus occidentalibus per mutationem mercium iniunt": "The Indian Sea is filled with

¹ This legend is taken from Pliny's *Natural History*, a work rich in such stories. Although surpassed by Isidore and Solinus in accounts of things marvelous, Pliny was especially held in high esteem by cosmographers during the middle ages. See Book IX, Chapter vi. There is some doubt here as to the exact meaning of Pliny. Hardouin thinks the reading should be

one hundred and forty-four, though others have given the reading seventy-six. Pliny's Book IX is entirely devoted to a consideration of fishes.

² "The natives of India steer their vessels for the most part by the stars of the Southern Hemisphere, as they rarely see those of the North." *Hk. S.*, p. 26.

many islands, rocks and sand-banks. Their ships, therefore, are constructed with many compartments, to the end that if they are broken in any part, the remaining parts may be sufficiently strong to complete the course. These, moreover, are supplied with several masts,—from three to ten,—and having sails made of reeds and palm-leaves joined together, they pursue their courses with great rapidity. And these [ships], loaded in particular with spices and other aromatics, sailing rather often to Mecca in Arabia, trade with the Western merchants through an exchange of their goods.”

We find on other world maps similar information concerning the construction of ships which sailed the Indian Ocean, as well as information concerning trade routes.¹

The legend on our map relates in part to the Chinese junks, in part to the trade with India, which in the fifteenth century was in the hands of the Arabians, from whom the Portuguese seized it. Chinese junks, after an interval of five hundred years, again sailed the Indian Ocean at the end of the thirteenth century. Marco Polo, who, on his homeward journey, sailed in one of them as far as Malabar, gives us a detailed picture of these boats.²

Conti has also an interesting description of them.³

¹ See the Catalan World Map, 1375. Reproduction facing p. 44.

² Yule: *Marco Polo*, Vol. II, pp. 249, 253. Marco Polo devotes an entire chapter to “the merchant ships of Manzi that sail upon the Indian seas.”

³ Referring to the natives of India, Conti says: “They are not acquainted with the use of the compass, but measure their courses and the distances of places by the elevation and depression of the pole. They find out where they are by this mode of measurement. They build some ships much

larger than others, capable of containing two thousand butts, and with five sails and as many masts. The lower part is constructed with triple planks, in order to withstand the force of the tempests to which they are exposed; but some ships are so built in compartments that should one part be shattered, the other portion remaining entire may accomplish the voyage.” *Hk. S.*, p. 26. The watertight compartments which Europeans first made use of in modern times, referred to here by Conti, and fully

Ibn Batuta also describes them minutely, making mention of ships which could carry a thousand men—six hundred seamen and four hundred soldiers.¹ Such ships were much larger than those which then sailed the Mediterranean. In addition to the sails, which were made of bamboo matting and attached to four or more masts, these Indian ships had rudders, which were handled by from ten to thirty men. The larger vessels also carried small boats, which were used, as Marco Polo states, “to lay out the anchors, catch fish, bring supplies aboard, and the like. When the ship is under sail, she carries these boats slung to her side.” Many of the vessels had as many as four decks, and even the smaller ones, fifty or sixty cabins. Vegetables, we are told, were sometimes grown on board.

The river and the mountain systems of Asia have many peculiarities. Near the Persian Gulf in Arabia a mountain is represented, out of which flows a river, emptying north of Mecca, which doubtless is the Betius of Ptolemy. Diagonally across the northern part of the peninsula stretches a mountain-range. “Mons Synai,” near the northern border of the Red Sea, is represented, on the summit of which is the Convent of St. Catherine;² and we also find here the highlands of Armenia, out of which flow the Euphrates and Tigris, these highlands being especially distinguished by a representation of Noah’s ark. In Syria, to the south of Damascus, “Mare Tiberiadis” appears as a large lake. In the Gulf of Iskanderun a river empties, flowing out of the northeast, recognizable as the

described by Marco Polo, are in use to-day in China, both for sea-going vessels and for certain river-craft.

¹ See the interesting citation from Ibn Batuta in Yule: *Marco Polo*, Vol. II, p. 252.

² Most of the early maps which in-

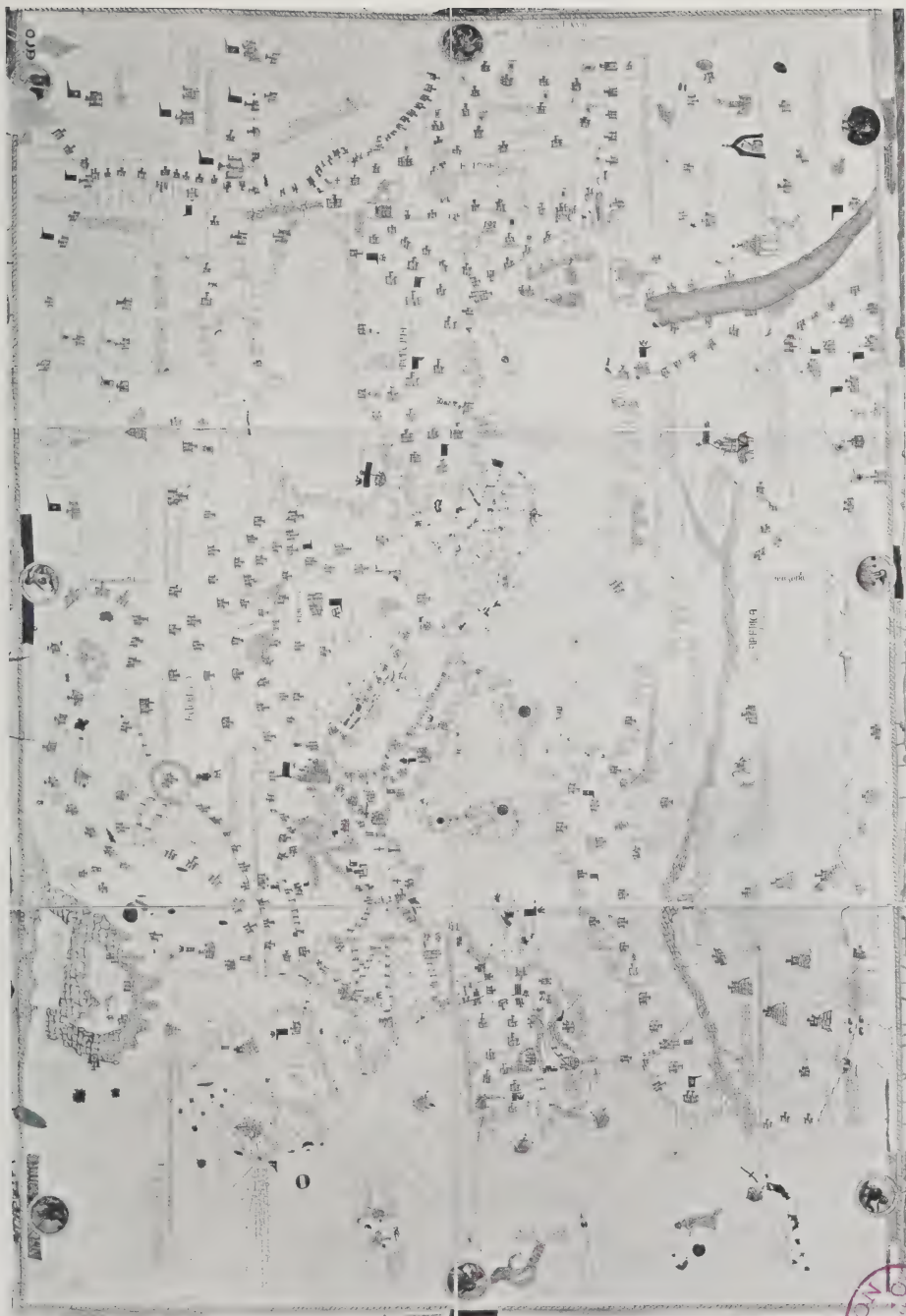
clude this region have a representation of the Convent of St. Catherine of Alexandria located on Mount Sinai. Throughout the middle ages, she was ranked as one of the most helpful saints. See *Catholic Encyclopedia*, art. “Catherine of Alexandria.”

Dschihan, on which lies the city Antioch. The Caucasus stretches across the isthmus between the Black and the Caspian seas, and as numerous rivers rising in the Caucasus empty into the former, the mountain-range had to be drawn nearer the Caspian Sea in order that there might be sufficient space for the range and the representation of the Iron Gate near Derbent. This city is distinguished by a strong tower and the legend: "Derbent quod lingua eorum id quod porte ferri": "This is Derbent, which in their language [means] a gate of iron." The Iron Gate, usually associated with Alexander the Great and the apocalyptic people, Gog and Magog, has an important place on the world maps of the middle ages. Doubtless it was the medieval wall stretching from the mountains to the sea near Derbent, closing the road along the Caspian Sea to the peoples of the steppes on the north, that called forth the legend of the Iron Door.¹ The city itself, Derbent, was

¹ Marco Polo says: "This is the country beyond which Alexander could not pass when he wished to penetrate to the region of the Ponent, because that the defile was so narrow and perilous, the sea lying on the one hand, and on the other lofty mountains impassable to horsemen. The strait extends like this for four leagues, and a handful of people might hold it against all the world. Alexander caused a very strong tower to be built there to prevent the people beyond from passing to attack him, and this got the name of the Iron Gate. This is the place that the Book of Alexander speaks of when it tells us how he shut up the Tartars between two mountains: not that they were really Tartars, however, for there were no Tartars in those days, but they consisted of a race of people called Comanians, and many besides."

Yule: *Marco Polo*, Vol. II, p. 50.

A wall of defense appears to have been constructed here at a very early date, and to have been renewed and extended at various times in succeeding centuries. The Alexander legend tells of that great ruler's forcing a number of cannibal nations into a mountain gorge and praying that they might be shut up therein. The legend records that the mountains drew close together, and Alexander then built up the narrow gorge and closed it with gates of iron and brass. This legend came to be associated with the Pass and Wall of Derbent. There seems to be good reason for believing the first fortress of Derbent was completed about 542 A.D. The belief that the Tartars were identical with Gog and Magog led to the gates or ramparts of Alexander being identified as the Wall of China.



Pizigani Map, 1367

founded in the middle ages by the Persian Sassanids, for the purpose of guarding this pass. The word is Persian, signifying gate or narrow pass, and is a name often met with in Persia. In Arabic the city is called Bab-el-Khadid, in Turkish Demir Khapussu, that is, Iron Door. The wall stretching landward along the mountain-ridge is yet, in part, well preserved, and one can follow its ruins for a distance of many miles. According to popular tradition, it extends along the entire ridge of the Caucasus, and so it appears on our map extending from the second iron door, or pass, across Asia. A legend on the map of the Pizigani makes it clear that the wall from Derbent was originally constructed to protect the Persian territory from the people of the steppe region. One of the castles on this map is distinguished by the legend, "Hic est custodia husbeci [Khan Usbech]"; the other by the legend, "Caiob est custodia bunsay [Khan Bunsay of Persia]." This narrow pass between the steppes on the north and the cultivable regions on the south has been especially significant in all periods and is probably recognizable as the Sarmatian gate of Ptolemy.

As has been said, the Caspian Sea is drawn according to Ptolemy. It is rich in islands and is called "Mar de Sara," after the principal city of the Kipchak. Marco Polo called it the Sea of Ghel, or Ghelan, since Gilan, the city whence silks came, was to the Italians the best-known city on its shores.¹ The map of Pizigani² represents it, and gives the several names under which it was known in the middle ages: Sea of Sara, Caspian Sea, Sea of Dschordschan (the southeast shoreland), Sea of Baku, and Sea of Gilan, but it was most frequently called Baku, after the city. Aside

¹ The name may originally have been taken from the ancient Gelæ, who lived at one time in this country.

² See reproduction facing p. 30.

from the Volga and the Ural, two other rivers are here represented, rising in a range of mountains which extends in an east-west direction. One of these is perhaps the Emba, the other the Jaxartes of Ptolemy. South of the Caspian Sea we find a quadrangle framed by mountains which appears to be Parthia, according to the representation of Ptolemy.

A river taking its rise on the east side of this mountain quadrangle, and emptying through two mouths into the Indian Ocean, cannot be identified, as the chart here contains numerous errors. It may be a representation of the Hilmend. A mountain-range farther eastward, and stretching in a northeast-southwest direction, is the east Iranian mountain-range, along which flows the Indus. This river forms through its four outlets a conspicuous delta, and receives from the neighboring mountain-range two tributaries. From the mountain-range on the northern border of Parthia, a great range stretches diagonally across the entire Asiatic continent, to the gulf indicated on the east, to which gulf reference has been made. It divides the great forest region of northern Asia from southern Asia. These mountains clearly are the Taurus, Paropamisus and the Emodas of Ptolemy, the continental axis of Asia, that is, the Hindu Kush, the Quen Lun, the Nan Schan, and the other border mountains of eastern central Asia to-day, which in their spurs reach almost to the Gulf of Petchili. The Ptolemaic Imaus, which divides Scythia into Hither and Further Scythia,—“*Scithia citra ymaum montem*” and “*Scithia ultra ymaum montes*,”—is very prominently represented on our map. It branches in diagonal directions westward of the sources of the Indus, that is, nearly twenty degrees farther westward from the continental axis than it is represented by Ptolemy.

It is of special interest that in a region so significant by reason of its physical features, where the Pamir Highlands, the Hindu Kush, the Himalaya and the Quen Lun unite, our cosmographer represents a second "Porte ferri ubi Alexander Tartaros inclusit,"—"Iron gate where Alexander imprisoned the Tartars,"—or a wall with a strong gateway. This is doubtless one of the passes lying somewhat to the west, where Scythia on the north joins with the highlands of Iran, and is probably the Khyber. Here was a national highway over which, immediately preceding this period, the wild people of central Asia so frequently came into southern Asia. Indeed, from the most ancient times this important highway was the connecting link between northern and southern Asia, and its architectural ruins—the fortifications erected by the different peoples at different times—point to its significance. Very properly, the name of Alexander is associated with it, since through his founding of Alexandria ad Caucasum the southern region was secured against the attack of the northern barbarians, the Scythians, who, in the language of the middle ages, were called Tartars. Our cosmographer must have had information concerning the numerous towers scattered here and there over this pass. As in questions relating to the Nile, Ptolemy showed himself to be better informed than were geographers of later date,¹ even to very recent times, so it also appears that his representation of the mountain systems of Asia, though somewhat altered by our author, was remarkably well done in the larger general features. Herein in particular does the value of the Genoese map appear in a comparison with the larger map by Fra Mauro,

¹ It is interesting to compare the representation of the Nile River and its sources as laid down on Ptolemy's

maps with the representations of certain seventeenth- and eighteenth-century chart-makers.

although the latter is richer in details. In the representation of the Indus, for example, with its five branches, our author follows Ptolemy. In the region at the foot of the mountain between the Indus and the Ganges we find the Indian desert represented. In contrast, the Ganges is represented according to recent information, that is apparently from the record of Conti. It receives its water through three tributaries from the great watershed. Two of these tributaries on the left seem to be the Brahmaputra and the Barak, though the larger one on the north may be intended as the Irawadi, since on this lies Ava, and above it is a legend taken from Conti: "*Maius Gange qui aliter daua dicitur*": "Rather the Ganges which otherwise is called the Dava.¹ Though our cosmographer makes certain mistakes in relation to the chief stream of India, yet his representation of the hydrography of Asia is near the truth, and, as stated, is much better than that given by Fra Mauro. As the Indus and its delta received special consideration, so also did the Ganges, the mouth of which is marked by the following legend: "*Hostia Gangis fluvii curus latitudo est XV miliaribus in cuius ripa arundines adeo magne ut armum excedant insule et nuces quas Indas dicimus procreant*": "The mouth of the Ganges River, the width of which is fifteen miles, on whose banks grow canes so large that they exceed [the size of] the arm, and the islands grow nuts which we call Indian." This legend is also taken from Conti with some modification.²

¹ Conti's record states that "quitting this city [Cernove], he traveled through mountains void of all habitations for the space of seventeen days, and then through open plains for fifteen days more, at the end of which time he arrived at a river larger than the Ganges, which is

called by the inhabitants Dava. Having sailed up this river for the space of a month, he arrived at a city more noble than all the others, called Ava, and the circumference of which is fifteen miles." *Hk. S.*, p. 10.

² In Conti's account we find: "After having made many journeys, both by

In the interior of Further India there is a large lake with the legend: "Huis lacus sunt aque ad potum a menissime et suaves": "The waters of this lake are very pleasant and sweet for drinking." This lake, mentioned in the fabulous stories concerning India in the middle ages, is derived from Conti.¹

In these rather remarkable sketches we probably have a reference to the lakes of Udaipur and Dbar on the southern highlands of Mewar, which lakes in fact lie between the Indus and the Ganges.² As lakes are rare in central and northern India, these enjoy a considerable reputation. They owe their origin in part to artificial dams, and serve the purpose of reservoirs for artificial irrigation. They are remarkable for their natural surroundings, and for the palaces of the rulers of Mewar erected on their banks. This statement concerning the lakes as represented on our map is supported by the fact that a mountain appears to the southwest, from which a river flows to the south, at the mouth of which lies Cambay. The river is probably the Mahi, and the mountain the Salamber range. The river Ava, as well as the southern parallel tributary of the Ganges, and the two Chinese rivers, the one flowing to the southeast and the other to the northeast, come from a mountain which is further explained by the legend: "In hoc monte gignuntur carbunculi": "In this mountain carbun-

land and sea, he entered the mouth of the river Ganges, and sailing up it, at the end of fifteen days he came to a large and wealthy city called Cernove. This river is so large that, being in the middle of it, you cannot see land on either side. He asserts that in some places it is fifteen miles in width." *Hk. S.*, p. 9.

¹ "There is also a lake lying between the Indus and the Ganges," says

Conti, "the water of which possesses a remarkable flavor, and is drunk with great pleasure. All the inhabitants of that district, and even those living at a distance, flock to this lake for the purpose of procuring the water. By means of relays of carriers mounted on horseback, they draw water fresh every day." *Hk. S.*, p. 22.

² Ritter: *Asia*, Bd. IV, II, p. 872.

cles are found." Judging from the rivers which spring therefrom, and from this legend, we are led to conclude that the mountain-land is eastern Tibet. The representations of our cosmographer are here very erroneous, and the errors may perhaps be attributed to Conti and Poggio, since one is led to conclude by a careful study of the Conti narrative that it is not simply the story of a practical merchant traveler, but a story often adorned by the additions of a learned copyist. The Carbuncle Mountains and the art of obtaining these valuable stones play an important rôle in the records of all cosmographers of the middle ages.¹ On the Catalan world map of 1375 appears a legend with an interesting pictorial representation.² A mountain is indicated with a deep valley out of which a bird flies, having a piece of meat in its beak, and out of the same valley a river flows which in its course forms the boundary between India and China. These mountains are often represented

¹ Fischer cites here a passage from a description of India and the land of Prester John to be found in a manuscript belonging to the Monastery of the Holy Cross in the Wienerwald, which is similar to other allusions. Marco Polo states that "when the rains are over, and the waters from the mountains have ceased to flow, they search the beds of the torrents and find plenty of diamonds," and he also says: "Now, among these mountains there are certain great and deep valleys, to the bottom of which there is no access. Wherefore the men who go in search of the diamonds take with them pieces of flesh as lean as they can get, and these they cast into the bottom of the valley. Now there are numbers of white eagles that haunt those mountains and feed upon the serpents. When the eagles see the meat thrown down, they pounce upon

it and carry it up to some rocky hill-top, where they begin to rend it. But there are men on the watch, and as soon as they see that the eagles have settled, they raise a loud shout to drive them away. And when the eagles are thus frightened away, the men recover the pieces of meat and find them full of diamonds which have stuck to the meat down in the bottom. For the abundance of diamonds down there in the depths of the valley is astonishing, but nobody can get down; and if one could, it would be only to be incontinently devoured by the serpents which are so rife there." Yule: *Marco Polo*, Vol. II, pp. 360, 361.

² See the reproduction of the map in *Choix de Documents*; in Norden-skiöld: *Periplus*, Plates XI-XIV; or in Cordier: *L'Extrême-Orient dans l'atlas catalan de Charles V*, Plate I.

on early maps with legends referring to carbuncles or to diamonds. From Maharatia, Conti states that he made a thirteen days' journey eastward to the Carbuncle Mountains, that is, to the border mountains of Burma, which our map-maker attempts to represent.

Marco Polo relates a similar story, but adds, as does Conti, the simple facts which he himself observed, that is, that diamonds are obtained in India through mining and through the washing and the sifting of the sands.¹ The legend referred to is very old and is known in many different countries. Yule refers to it as one known in the fourth century of the Christian era, in which allusion is made to the hyacinth or jacinth. It was one known to the Byzantines, to the Arabs, and to the Chinese, but it seems to owe its origin to India.

No rivers are represented by our cosmographer in north-east Asia, but we find twice inscribed the legend "Montes inaccessibiles": "Inaccessible mountains." In the extreme northwest, in genuine medieval fashion, a leopard and a griffin have been sketched. In Turkestan is the legend "Cambellannas rex magni cannis filius": "King Cambellannas, son of the great Khan," by which legend is probably meant Timur, who reunited the numerous small kingdoms into which, about 1350, Dschagati had fallen. King Cambalech, "Rex Cambalech hoc est magnus cannis," "King Cambalech, that is, the Great Khan," is represented in picture as ruling Cathay, and the King of India is represented on horseback with sword in hand. Northern Asia is properly made to appear as a region covered with pine forests, a representation which is to be found on no other early world map, and which seems to suggest that our map-

¹ Conti's allusion is almost identical with that of Marco Polo. *Hk. S.*, pp. 29, 30. See note, Yule's *Marco Polo*, Vol. II, p. 362.

maker was in possession of somewhat detailed information concerning the character of the region. In the extreme north appears the figure of a man casting himself into the sea, whose act is explained in the following legend: "Istorum mos est ut senio confecti sese in mari per montes abruptos perimant": "It is the custom of these people, as old age comes on, to cast themselves from the steep precipices into the sea." This information seems to be derived from Pliny.¹ Even to-day in northeast Asia, there may be found a people among whom suicide is common, the result of a belief that should one depart this life before the feebleness of old age comes on, a life of happiness in the hereafter is secured. Two legends are here inscribed, the one relating to the medieval geographical myth concerning the ten lost tribes of Israel, and the other to Antichrist. The one to the east of "Montes inaccessibiles,"—"Inaccessible mountains,"—designated here as "Ymaus mons," reads: "De hac gente, hoc est ex tribu Dan nascetur is est antichristus qui magica arte montes istos apperians ad christocolas subvertendos accedet": "From this race, that is, from the tribe of Dan, Antichrist is to be born, who, opening these mountains by magic art, will come to overthrow the worshipers of Christ." The other reads: "Hic adeo . . . habitant ex Ebreorum tribus decem generacione cum dimidia Benjamin, qui legis sue effreni degeneres vitam qui ducunt epicur-

¹ "Death comes upon them [Hyperborei] only when satiated with life. After a career of feasting, in an old age sated with every luxury, they leap from a certain rock there into the sea; and this they deem the most desirable mode of ending existence. Some writers have placed these people, not in Europe, but at the very verge of the shores of Asia, because we find there a people called the At-

tacori." Pliny, Book IV, Chapter xxvi.

² Writing to Henry III of England in 1241, the Emperor Frederick II says of the Tartars: "It is said they are descended from the Ten Tribes who abandoned the Law of Moses and worshiped the Golden Calf. They are the people whom Alexander Magnus shut up in the Caspian mountain." See Yule: *Marco Polo*, Vol. I, p. 56.

riam": "Here dwell the ten lost tribes of the Hebrew race with the half tribe of Benjamin, who, unrestrained by their law and being degenerates, pass an epicurean existence."

On their appearance, the Mongols were thought to be the descendants of the ten tribes who had departed from the Mosaic law; and even in the Mohammedan world their coming was regarded as a sign of the approaching end of the world.¹ In this part of Asia our cosmographer places the land of Magog, whence Jews, Mohammedans, and also Christians of the middle ages, expected the coming of the destructive races at the last day.² On most of the early maps of the middle ages this land of Gog and Magog is represented, but with the advance of knowledge of Asia the names were given to lands further northward. Here our cosmographer seems to rely in the main on Arabic sources, and especially on Edrisi.³ He places Magog north of the mountain-range stretching entirely across Asia, Gog south of the same, and on the border range several towers are indicated. The people Gog appear as a group of dwarfs covered with a shield, who are attacked by two cranes. A legend gives the following explanation: "Isti sunt ex Gog generacione qui cubitus altitudinem non excedunt anni aetatis nonum non actingunt et continue a

¹ "Misery is upon the cities that we have ruined; their inhabitants shall not return into the world until the passage be opened to Gog and Magog, and they come running from the eminent places of the earth; then shall the day of judgment approach." *Koran*, Chapter xxi.

² In the *Cosmography* of Æthicus, who is believed to have written about the fourth century, we find an allusion to the Turks "of the race of Gog and Magog, a polluted nation, eating human flesh, and feeding upon all

abominations, never washing, and never using wine, salt nor wheat, who shall come forth in the day of Antichrist from where they lie shut up behind the Caspian Gates, and make horrid devastation." See Yule's *Marco Polo*, Vol. I, p. 56.

³ *Géographie d'Édrisi français, par Jaubert (Recueil de Voyages et de Mémoires, publiée par la Société de Géographie, Vols. V, VI)*. See Vol. VI, pp. 349-351, on "Pays Gog et de Magog."

grubius infestantur": "These are of the generation of Gog, who do not exceed the height of a cubit, who do not attain the age of nine years, and who are continually molested by cranes." Edrisi also represents the people Gog as dwarfs, and our cosmographer identifies them as the pygmies of Pliny,¹ who placed them in the mountains of the north of India, exactly as does our cosmographer, in a beautiful valley protected from the cold winds, where they are molested only by the attacks of the cranes. This identification of Gog with the pygmies of classical antiquity is peculiar to this map. The Catalan world map places them in about the same region, and represents three cranes flying above, on the point of making an attack. The towers referred to above are explained in the following legend: "Has turres construxit presbyter Johannes rex ne inclusis hominibus ad eum pateat accessus": "King Prester John built these towers in order that those shut therein might not have access to him." These towers stretch along the crest of the mountains, as if intended to protect the more highly civilized parts of China from the wild people of north and central Asia. It seems probable that we have here an early reference to the Chinese Wall, which appears on no other medieval map. Abulfeda and Raschiduddin, his contemporary, refer to the great wall as the Wall of Gog and Magog.² As the builder of this wall, our cosmographer in his legend names Prester

¹ "Beyond these people [Scyritæ], and at the very extremity of the mountains, the Trispethami and the Pygmies are said to exist: two races which are but three spans in height, that is to say, twenty-seven inches only. They enjoy a salubrious atmosphere, and a perpetual spring, being sheltered by the mountains from the northern blasts; it is these people that

Homer has mentioned as being waged war upon by cranes." Pliny: *Natural History*, Book VII, Chapter II.

² Abulfeda says: "The ocean turns northward along the east of China, and then extends in the same direction till it passes China and goes opposite to the rampart of Yájúj and Májúj," and he here refers to the boundary of China on the north as the land of

John, who for centuries was regarded as a central Asiatic Christian king; and in two places on his map, in central Asia and in Abyssinia, reference is made to "Presbyter Johannes rex," that is, to a Christian ruler and his kingdom. It appears from the investigations of Yule,¹ von Richthofen and Zarncke,² that we can attribute the origin of the reference to a Christian ruler in the East to Yeliu Tashi, the founder of the Karacathian kingdom in Turkestan in the first half of the twelfth century, who, as conqueror of the Seljukian ruler of remote Asia, may have appeared to the oppressed Christians of that region as a fellow-believer, for they had knowledge that in the interior of Asia there were yet Nestorian Christians. It is not impossible that Yeliu Tashi went over to Christianity, since in religious matters the Mongolian princes were very liberal, and it is known that in the West many of them were claimed as Christians. That he was considered to be a priest, as is true of many other Oriental rulers (Genghis Khan, for example, was called King David), and received the name John, may find its explanation in the peculiar relations of the Nestorian Christians in inner Asia, who, in their dispersion, were compelled to make such general use of priestly consecration that very nearly all of the men received it. The first writer of the Occident from whom information concerning the central Asiatic Prester John may be obtained is Otto von Freising, who lived in the twelfth century.³ By reason of the scant knowledge which

Yájúj and Májúj and other unknown countries. On the distinction of the Tartars into two races, see Yule's *Marco Polo*, Vol. I, p. 294, and references.

¹ Yule: *Marco Polo*, Vol. I, p. 232.

² Zarncke: *Der Priester Johannes*

(in *Abhandlungen der sächs. Akademie Phil. Hist. Kl.*, 1879).

³ Bishop Otto of Freising, in whose history we have the first allusion in European literature to a personage called Prester John, says that when at Rome in 1145 he met the

the West possessed concerning the lands and the peoples of the East, this central Asiatic ruler became confounded in tradition with a south Asiatic Indian ruler, who in turn, as information was obtained concerning the Christians in India,—the so-called Thomas Christians,—came to be identified as the Christian ruler of Abyssinia, that is, the ruler of the third India of the middle ages.¹ The legend on this

Bishop of Gabala from Syria, adding: "We heard him in tears relate the peril of the Church beyond the sea since the capture of the city Edessa, and announce his intention on that account to cross the Alps to ask aid from the King of the Romans and from the King of the Franks. He also told us how some years before one king and priest, John by name, who dwells in the far East beyond Persia and Armenia, and who is a Christian, but a Nestorian, waged war against the kings of the Persians and the Medes, who are called the Samiards, and who have captured Ecbatana, concerning which we have spoken, the capital of their domain. These kings meeting him with their forces composed of Persians, Medes and Assyrians, the battle waged for three days, both sides preferring death to flight. At last Prester John, for so they were accustomed to call him, having routed the Persians, came forth a victor from the battle. After this victory, the aforesaid John was advancing to fight in aid of the Church at Jerusalem. When he arrived at the Tigris River and found that there was no means for transporting his army, he turned northward, for he had learned that the river in that region was frozen in winter-time. Halting here for some years(?) in expectation of a frost which did not come owing to the mildness of the season, he lost many of his people through the inhospitable cli-

mate, and he was obliged to return homewards. This individual is said to be of the ancient race of the Magi mentioned in the Gospel, and to rule the same peoples that they did, and to have so much glory and wealth that he uses only an emerald sceptre. It was from the impulse induced by the example of his fathers, who came to adore the Christ in the cradle, that he was proposing to advance to Jerusalem when he was prevented by the causes which have been already stated." It was shortly after this date that a letter full of extravagant statements was circulated, purporting to have been addressed by Prester John to the Greek emperor Manuel, the Roman emperor Frederick, the Pope, and other Christian sovereigns. It was doubtless due to this that the idea of a Christian conqueror was planted deep in the mind of Europe, and twined itself around every rumor of revolution in distant Asia.

¹ The term "India" appears to have been somewhat vaguely used in the later middle ages. We find, for instance, that the name was applied to the region beyond the Ganges, that it was applied to the region between the Indus and the Ganges, that there was an India lying to the west of the Ganges, embracing Arabia, Persia and Abyssinia, and that the name was sometimes applied to a region lying wholly within Africa. Ethiopia was occasionally referred to as the region of India. Abulfeda refers to "So-

map ascribes to Prester John a deed which elsewhere is attributed to Alexander the Great: that he had shut up the people Gog and Magog with others beyond the high mountains of the north.

In the letter of the second half of the twelfth century, referred to in note 3, p. 41, attributed to Prester John and addressed to the Greek emperor, may be found a statement similar to that on our map, which reads: "Istas nempe [Gog et Magog] et alias multas generationes Alexander puer magnus rex Macedonum conclusit inter altissimos montes in partibus aquilonis": "These [Gog and Magog], indeed, and many other races, Alexander, the boy king of the Macedonians, confined in the northern part, between very high mountains."

On the Catalan map of 1375 a similar legend appears. In 1177 Alexander III addressed a letter to Prester John, perhaps the "Indorum rex," which we here find. It is to him, as king of that people, that all the fables of the middle ages concerning the treasures of India seem to relate. Though we possess no very definite information concerning him, it seems probable that one of the followers of Yeliu Tashi is meant. In the thirteenth century Jenghiz Khan was occasionally referred to as Prester John, or as the son of Prester John, and for centuries there was a widely accepted legend which connected this prince with the uprisings of the Mongolians, as there was also a legend which made him a ruler of India.

Giovanni dei Marignolli, a famous Italian traveler, who visited central, eastern and southern Asia about the middle of the fourteenth century, speaks of an African Prester

fala" as likewise a country of India. Conti says: "All India is divided into three parts: one, extending from Persia to the Indus; the second, com-

prising the district from the Indus to the Ganges; and the third, all that is beyond." *Hk. S.*, p. 21.

John.¹ Soon after the time of Marignolli, Prester John appeared on the Catalan map of 1375 in the Nubian and the Abyssinian regions, and from that time on the name seems to have been connected with the last-named region, though, as our map shows, it did not completely disappear from central Asia. There is support for the belief, as expressed by Yule, that in the letter of Alexander III, above referred to, the ruler of Abyssinia is to be understood, although the great majority of the allusions to him seem to support the idea that the original Prester John was a central Asiatic ruler.²

As a characteristic representation of the animal world, we find sketched in Further India a snake with a human head. The idea that such monsters were to be found here appears to have been taken from Conti.³

¹ Marignolli, referring to the four sacred streams, notes that Guyon, after passing through Ceylon, "encircled the land of Ethiopia, where now are negroes, which is called the land of Prester John." See *Fontes rerum Bohemicarum*, 1882, Vol. III, pp. 492-604, for an account of Marignolli. Jordanus, a little earlier, refers to "the Ethiopian ruler called Prester John." See the edition of *Mirabilia Descripta per Fratrem Iordanum* (in *Recueil de Voyages et de Mémoires*, publiée par la Société de Géographie, Paris, Vol. IV, 1839, pp. 1-64).

² Yule observes: "The idea that a Christian potentate of enormous wealth and power, and bearing this title [Prester John], ruled over vast tracts in the Far East, was universal in Europe from the middle of the twelfth to the end of the thirteenth century, after which time the Asiatic story seems gradually to have died away, while the royal Presbyter was assigned to a locus in Abyssinia, the

equivocal application of the term India to the east of Asia and the east of Africa facilitating this transfer. Indeed, I have a suspicion, contrary to the view now generally taken, that the term may from the first have belonged to the Abyssinian princes, though circumstances led to its being applied to another quarter for a time. It seems to me almost certain that the letter of Pope Alexander III preserved by R. Hoveden and written in 1177 to the 'Magnificus rex indorum sacerdotum sanctissimus,' was meant for the King of Abyssinia." Yule: *Marco Polo*, Vol. I, p. 231.

³ Conti states that "this country produces frightful serpents without feet, as thick as a man, and six cubits in length." *Hk. S.*, p. 13. Marco Polo also refers at some length to the "serpents" of this region, though his description is doubtless that of the crocodile. See Yule: *Marco Polo*, Vol. II, pp. 76-78.



Catalan Map, 1375



The geographical nomenclature in the interior of Asia is very numerous, including the names of cities, countries and topographical features. In Asia Minor we find the names "Asia Minor," "Pontus," but more conspicuous the name "Turchia." Of the cities which are here most distinguished there may be named "Sinope," which is adorned with a Genoese banner. East of this, "Simisso," "Patinissa," "Chrizona," "Trapezonda," "Sormene." West of Sinope lies "Castelle," also "Ponteraquia" and "Carpi." On the Sea of Marmora is "Palolimen," and "Diascinolo" which on English charts is represented as Eskel Bay, a semicircular harbor with a very good anchorage twelve kilometers east of the mouth of Susurulu Tschai. Farther to the west is "Spiga," that is, Karabuga Bay, into which the Granicus empties. On the west coast only the name "Altoluogo" appears, which name one finds on almost all sea charts. This was located near the site of Ephesus and was a prosperous city in the fifteenth century. On the south coast we find "Atalea" and "Candelor," the ancient Alaja and Korakesion. Farther southward, "Antioceta," a fortification on the coast often referred to in the fifteenth century; also "corocho," the ancient Corycus, northeast of the mouth of the Selefke. This is Strabo's Cape Korykos with the Koryken Cave, where in Greek, in Roman, in Byzantine, and also in Armenian times stood a fortification. Even to-day there is here an old fortification and a mass of ruins, which appear on the English maps as Korghos Castle. In the time of our cartographer it was in the possession of the kingdom of Cyprus, and is accurately described by the traveler Josaphat Barbaro, a contemporary. Here we find "Tarsso" and "Layazo," which in the middle ages was a harbor of Lesser Armenia, and an important terminal on the commercial route to India.

The cities represented on the frontier of Asia Minor are probably "Angora," "Burssa" and "Philadelphia." In Armenia appears "Azerum," and to the southeast of this, in an incorrect position, "Sauasto."

In Syria the following are found along the coast from north to south: "Alexandretta," "Tortosa," "Sur," "Acre," "Cesarea," "Arzufo," now in ruins, but in the time of the crusades and for a long period thereafter in the possession of the Genoese, who had conquered it; also "Jaffa" and "Ascalon." In the interior, "Jerusalem," "Damascus," placed far to the north; "Antioch" and, less accurately placed, "Tiberias." Palestine is especially distinguished from "Seria" as "Judea sirie."

In Arabia "Arabia Deserta" is distinguished from "Arabia Felix," and the extreme southeast part of the peninsula, that is, Oman, is called "Fenicea et Sabba," suggesting that the Phenicians once occupied the basin of the Persian Gulf. Among the cities "Mecha Arabie" appears most conspicuous, and the tower decorated with a flag, and lying on the coast, is undoubtedly "Dschidda," Conti's Zidem. The large city on the south coast is Aden, at which point Conti landed. In Mesopotamia appear the names "babilone," a regional name; "Babilo" and "Baldac," or Bagdad; and in the Caucasus region are the territorial names "Zichia," by which name in the middle ages the region northwest of the Caucasus was designated, and "Albania," "Georgia" and "Iberia." In the highlands of Iran appear the names "Media," "Zilan," "Parthia," "Aria," "Aracosa," "Gedrosia," "Cormania" and "Persis." The land to the east of "Aria," that is, southern Afghanistan, is represented as a desert.

Among the cities referred to on the Caspian Sea appears a name no longer legible, but which is probably "Axum," being at the time of Montecorvino a winter residence of the Persian ruler; "Ungro," the best harbor of Gilan; "Zilan"

and "Cavo Zilan," by which perhaps is meant Sari, which in the middle of the fifteenth century was the most important commercial city on the south coast of the Caspian Sea.¹ In the interior are "Tauria," a center of trade with remote Asia and India; and "Ragis," the ancient Rhagæ, a residence of Mohammedan princes, and, since the destruction by the Mongolians, a vast ruin, out of which in part the neighboring Teheran is built. Of the cities of Parthia only the name "Yier" appears, by which perhaps Dschordschan is meant. On the Persian Gulf lies "Ragan," by which Arragan is probably to be understood, whose ruins are found in the vicinity of the present Babahan, with "Fars" on the Ab Ergum. This place, incorrectly located on the coast, is not referred to by Conti, nor is it to be found on any other map. Our cartographer must have had for this some special source. The city lying to the east must be Ormuz. The city "Calacia," lying in the interior, seems more difficult to distinguish, which city is referred to by Conti, but is not definitely located.² There may have been a Persian maritime city by this name on the coast of Oman, since by reason of favorable winds and gulf currents the two coasts of the Persian Gulf stood in such close relations that again and again in their history Persian rule controlled the Arabic coast, and Arabic rule the Persian coast. In the time of Ibn Batuta the coast of Oman was Persian, and was ruled from Ormuz. It was the Portuguese who first overthrew the Persian authority.³ Calacia, or Calacatia, according to Batuta, is Kalahat, Kalhat, Kilat or

¹ Observe that this is not the Kipchak capital.

² Conti's record reads: "Leaving this island [Ormuz], and turning towards India for the space of one hundred miles, he arrived at the City of Calacatia, a very noble emporium of the Persians. Here having remained for some time, he learned the Persian

language, of which he afterwards made great use, and also adopted the dress of the country, which he continued to wear during the whole period of his travels." *Hk. S.*, p. 5.

³ Portuguese rule began, in 1514, with the final conquest of the region by Alfonso d'Albuquerque.

Kilhat, in Oman southeast of Muskat, where its ruins may yet be seen near a small fishing village of the same name. Our cartographer very naturally was inclined to place a trading center in Persia. Kalhat, from the time of Edrisi to the arrival of the Portuguese, was the most important harbor and port of departure from Oman and the entire Persian Gulf to India, as was earlier Sohar and later Muskat. It appears that at the time our map was drawn the shipping from the Persian Gulf and from Ormuz followed the coast from Oman almost to Ras-el-Hadd, and from that point with the monsoons direct to India.

On the east side of the Caspian Sea, in Turkestan, there are only two cities represented—"Testango" and "Organzin." Testango, which Pizigani calls Trestago, is Tyschkandy on the Mertwyi-Kultuk Bay, whence the commercial highway led from the Caspian Sea over the Ust-Urt plateau to Organzin, the ancient capital city Chowaresmiens on the Darjalyk. Organzin is erroneously placed on the Caspian Sea. Destroyed first by Genghis Khan in 1221, and again by Timur, this great Asiatic frontier commercial city in the time of Conti was in ruins. The new city, Urgendsch, lies far to the east of the ancient city.

Conti, as before stated, divided India into three parts, but our cartographer, following the ancients, refers to two only, representing therein numerous cities and legends, most of which apparently he has taken from Conti. One of these legends, referring to India as a land whence ginger is obtained, reads: "Hic colligitur zenzero copiose": "Here much ginger is gathered";¹ the other, telling us of the practice of burning widows, reads: "Hic uxores virorum suorum exequias ignitas vive comitantur et si que pavidere nuunt ad id compelluntur": "Here the wives living

¹ "This province is called Melibaria ger, called by the natives colobi, pepper, [Malabar], and they collect in it ginger, brazil wood and cinnamon, which

mount the funeral pyre of their husbands, but if any refuse through fear, they are forced to this."¹

Of the several regions only Maabar is especially designated in a legend reading: "Provincia hec mahabaria dicitur": "This province is called Mahabaria." By this we are to understand Coromandel, lying on the east coast, since it appears evident the legend refers to Meliapur. Maabar, it should be noted, is not to be confounded with Malabar, or Melibar of Marco Polo.

Among the cities, Cambay is especially distinguished, which at that time was the most important commercial city of India, and which our cartographer calls "combayta," making use of the Spanish term instead of the Italian Camcaia or the Latin Combahita. Meliapur is distinguished by a Christian church with a cross and the legend, "Hic jacet corpus sancti Thome apostoli": "Here lies the body of the apostle Saint Thomas."² There was scarcely a Christian traveler from the time of Montecorvino and Marco Polo, returning with information concerning the so-called Thomas Christians, who had failed to visit Meliapur near Madras, since the place of Saint Thomas's burial was a sacred spot not only to Christians but also to Mohammedan pilgrims. The tradition that the holy Thomas preached Christianity in India, suffered martyrdom, and was buried in a mountain had its origin in very early times.³ Meliapur on our map lies on a strait which sepa-

is known there by the name of crassa." *Hk. S.*, p. 17.

¹ There is a somewhat elaborate account in Conti's narrative. *Hk. S.*, p. 24.

² "Proceeding onwards, the said Nicolo arrived at a maritime city which is named Malepur, situated in the second gulf beyond the Indus. Here the body of Saint Thomas lies honorably buried in a very large and

beautiful church; it is worshiped by heretics who are called Nestorians, and inhabit this city to the number of a thousand." *Hk. S.*, p. 7.

³ In Book III, Chapter XVIII, Marco Polo discourses on "the place where lieth the body of Saint Thomas the Apostle, and of the miracles thereon." See Yule's *Marco Polo*, Vol. II, pp. 353 et seq., including the valuable notes relative to Saint Thomas.

rates Ceylon from the mainland. On the same strait, but farther to the southeast, lies a second city, "Caila," near which is the legend, "Caila ubi pro paipro folliis arborum utuntur": "Caila, where they use the leaves of trees instead of papyrus." Caila is Conti's Cahila on the Gulf of Maanaar,¹ Marco Polo's Cail,² and Ptolemy's Colchi. According to Conti, we should look for Cahila at the southern point of India, between Meliapur and Ceylon. Ramusio places Cael on his map in the vicinity of Cape Comorin, while our cartographer places it to the east of Meliapur instead of to the west. Originally it was situated on or near the sea-coast, but through the delta formation it became an inland city and lost its significance, to which fact the widespread ruins in the neighborhood of the poverty-stricken village Kayal to-day bear witness. Here one finds great heaps of Chinese porcelains, but the inhabitants have lost all recollections of commercial relations with China; only those with Persia and Arabia seem to live in their memory. For centuries, even into the sixteenth, Caila was the central point of commerce between China, Further India, and the archipelago of the east and the trade centers of the Mediterranean. In the account of his voyage Vasco da Gama gives information concerning the city and kingdom of Cael.³ The tree whose leaves, it is stated, are used for paper is not the paper-mulberry tree, but the fan-palm.⁴

The fanlike leaves, about two hundred English square

¹ "Beyond this city (Malepur) there is another which is called Cahila, where pearls are found." *Hk. S.*, p. 7.

² Yule's *Marco Polo*, Vol. II, pp. 370 et seq., including Marco Polo's chapter "concerning the city Cail" and the notes.

³ "Cael, the king of which is a Moor, whilst the people are Christian. The distance from Calicut by sea is

ten days. The king can assemble four thousand fighting men, and owns one hundred war elephants. There are many pearls." See *A Journal of the First Voyage of Vasco da Gama*, edited by Ravenstein, p. 98. (*Hakluyt Society Publications*, 1897.)

⁴ Referring to Cahila, Conti says: "Here also there grows a tree which does not bear fruit, but the leaf of

feet in size, the Singhalese are said to use in the place of paper. The ancient "Pusk olay" manuscripts in the Buddhist monasteries were all written with an iron stylus on such paper, that is, on the leaves of the talipot palm, prepared by cooking and drying.

West of the Ganges delta, on a mountain, lies the large city "Bizungalia," which Conti called Bizenegalia, and which seems to have remained a city of importance well into the sixteenth century.¹ To its importance perhaps the legend "Major de mundo" refers. The "Arnona Civitas" of our cartographer seems to lie in about the position of Conti's Cernove, reached by him in a fifteen days' journey from the mouth of the river.² Conti gives a vivid description of this part of the Ganges River, up which river, as he states, he sailed for the space of three months; and from his description one might conclude that he had passed entirely through Hindustan, and that after he had made the desired commercial observations he turned about to make a long sojourn in Maharatia, perhaps one of the four important cities to which he refers.³

The land north of the Ava River (Irawadi) as far as a

which is six cubits in length and almost as many broad, and so thin that when pressed together it can be held in the closed hand. The leaves are used in this country for writing upon instead of paper, and in rainy weather are carried on the head as a covering to keep off the wet. Three or four persons traveling together can be covered by one of these leaves stretching out." *Hk. S.*, p. 7.

¹ "Departing hence [from Pacamuria] and traveling about three hundred miles inland, he arrived at the great city of Bizenegalia, situated near very steep mountains. The circumference of the city is sixty miles: its

walls are carried up to the mountains and enclose valleys at their foot, so that its extent is thereby increased. In this city there are estimated to be ninety thousand men fit to bear arms." *Hk. S.*, pp. 6, 7, 28.

² See note, p. 34.

³ "Having departed hence [from Cernove], he sailed up the river Ganges for the space of three months, leaving behind him four very famous cities, and landed at an extremely powerful city called Maarazia, where there is a great abundance of aloe wood, gold, silver, precious stones and pearls." *Hk. S.*, p. 10.

great parallel mountain-range, including apparently the entire Irawadi region, our cosmographer calls "Macina," inscribing the legend: "Hec provincia Macina dicta elephantos gignit, hugus incole serpentibus vescuntur deliciose affatin et facies suas variis punctis et coloribus stiloque ferreo depingunt et sola uxore sunt contenti": "This province of Macina produces elephants. Its inhabitants subsist on serpents, regarding them as great delicacies. They tattoo their faces with various punctures and colors and with an iron stylus. They are contented with one wife." The name Machin seems clearly to be a modification of the Sanskrit Maha Chin, that is, Great China, a name which the Persian and the Arabic writers still frequently use for Manzi, the southern part of China.¹ Including in part Indo-China, the name Machin may also include Further India, for which there is support in certain fifteenth-century references, as there are people of Further India among whom the custom of tattooing prevails; this being particularly true of the Laos and the Burmese.² Our cartographer clearly considers Burma a part of Machin, which since the thirteenth century has belonged to China. Conti's name Macinus can hardly be thought of as Mangi, which is suggested by Fischer, who follows Ramusio, but more probably refers to Siam.³ Though the geography of India as here laid down presents difficulties, there are difficulties which are equally great along the east coast. The eastern

¹ Manzi is a name which was applied to southern China, or a part of the same, at the time of the Mongol conquest of Cathay, or northern China. The name was used by Marco Polo, Odoric and Marignolli. By Persian writers it was commonly called Máchín.

² Odoric refers to "a singular gen-

eration of people" in "Sumoltra" (Sumatra), "for they brand themselves on the face with a little hot iron in some twelve places, and this is done by men and women both." Yule: *Cathay*, Vol. I, p. 86.

³ See note 1, p. 53, for further proof that Conti here is describing Siam.

border of Asia, toward the south, is represented as Cathay, and that toward the north as Sine. This last name, as before stated, was not employed at all in the middle ages, and may be considered a survival from Ptolemy. Cathay is made to include the entire peninsula of Further India. Near the picture of the Grand Khan enthroned, and his capital city with its four square towers, is the legend, apparently taken from Conti: "Huic regioni que catayum vel eorum lingua cambalec dicitur dominatur magnus canis": "The Great Khan rules this region, which is called Cathay, or, in their language, Cambalec."

Cathay¹ was the European name for northern China, while to the southern region, which was reached by water, the name China was given.² It does not appear from his travels that Conti reached China, and what he has to say may rest in part on rumors which came to him and in part on the accounts of Marco Polo. The title Khan had long since been given up by the Mongolian dynasty.

¹ Conti says: "Beyond this province of Macinus is one which is superior to all others in the world and is named Cathay. The lord of this country is called the Great Khan, which, in the language of the inhabitants, means Emperor." *Hk. S.*, p. 14.

² "For about three centuries the northern provinces of China had been detached from native rule and subject to foreign dynasties: first to the Khitan, a people from the basin of the Sungari River, and supposed [but doubtfully] to have been akin to the Tunguses, whose rule subsisted for two hundred years and originated the

name of Khatai, Khata, or Cathay, by which for nearly one thousand years China has been known to the nations of inner Asia and to those whose acquaintance with it was got by that channel." Yule further suggests that "the pair of names, Khiti and Machin, or Cathay and China, is analogous to the other pair, Seres and Sinae. Seres was the name of a great nation in the far East as known by land. Sinae was known by sea, and they were often supposed to be diverse, just as Cathay and China were afterwards." Yule: *Marco Polo*, Introduction, p. 11.

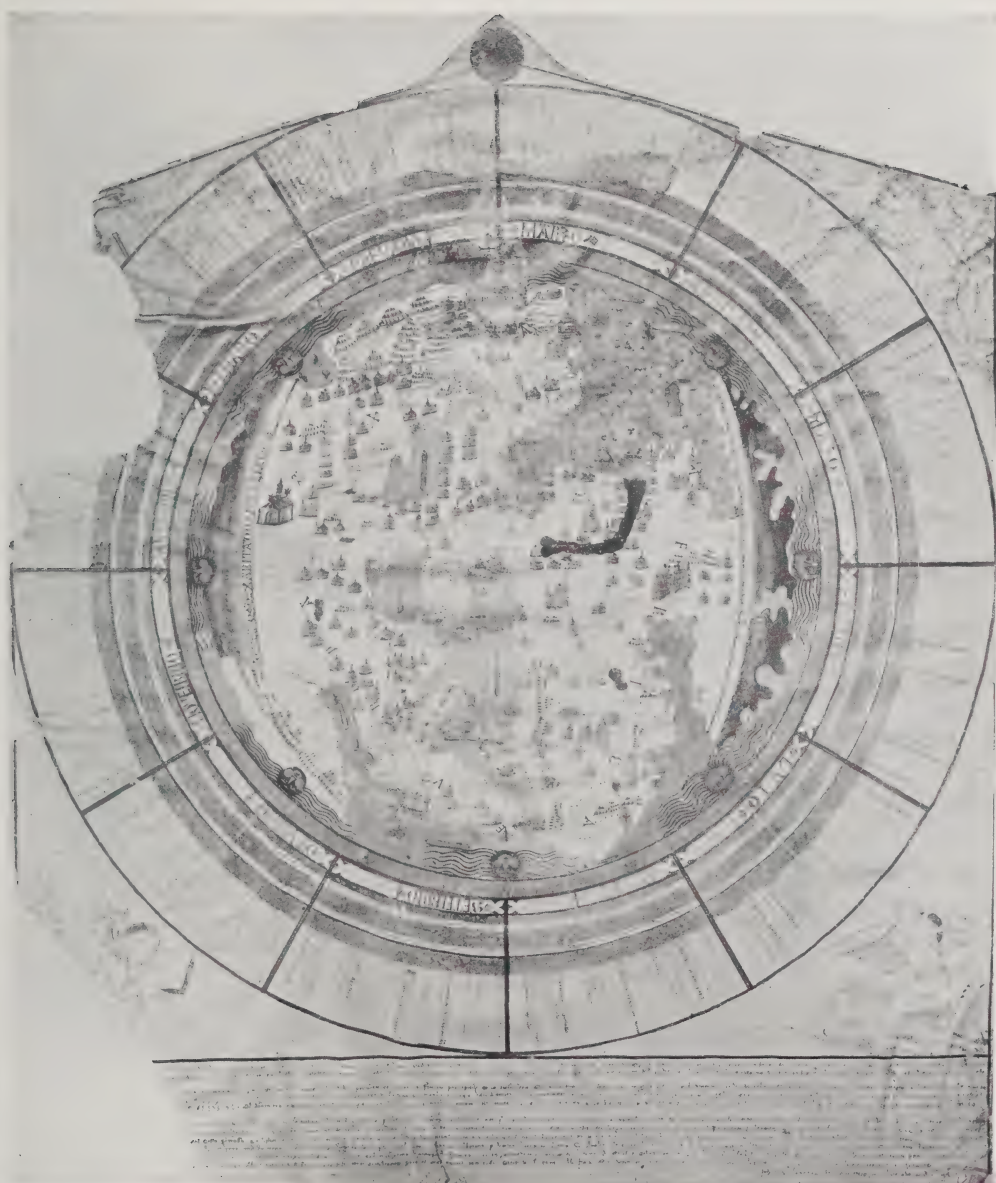
AFRICA

TURNING to the continent of Africa, we find its Mediterranean coast, as on the portolan charts, well represented; likewise the Atlantic coast as far as Cape Bojador, which had recently been reached by the Portuguese. Our cartographer appears to have known the trend of the coast even to Cape Verde, although his representation of the coast southward of Cape Bojador is far from correct in its details.¹ The southern coast of Africa is made to extend in a flattened curve toward the east, which representation is similar to that on the world maps of Sanuto, of Leardo, and of Fra Mauro. The southern continental boundary of the Indian Ocean appearing on Ptolemy's world maps, reduced to a long and narrow peninsula by Sanuto and Fra Mauro, is still further reduced by our cartographer.

On the west coast, in about the position where one should look for the Gulf of Guinea, a gulf having one large and two small islands extends into the mainland, as is represented by Sanuto, Leardo and Fra Mauro. These last-named cartographers call this gulf "Sinus Aethiopicus," while our cartographer, the name being repeated many times, designates the mainland as "Ethiopia," and his

¹ See the *Chronicle of the Discovery and Conquest of Guinea*, written by Gomes Eanis de Azurara, translated by Charles Raymond Beazley and Edgar Prestage, 2 vols. (*Hk. Soc. Publications*, 1896). This is an ex-

cellent original source for the story of Prince Henry the Navigator's discoveries along the coast of Africa to the year 1448. Major: *Prince Henry the Navigator*, the best account in English of Prince Henry's work.



Map of Leardo, 1452
[East at top]



legend here reads: "Preter tolemei tradicionem hic est guffus sed pomponius eum tradit cum eius insula": "Contrary to the tradition of Ptolemy, this is a gulf, but Pomponius speaks of it with its islands."

In about the latitude of this gulf on the west coast we also find one indicated on the east coast which appears to be the Bay of Zanzibar. Before this bay, that is, in the open waters of the Indian Ocean, is represented a fish with a swine's head. A legend here reads: "Hic porcus dictus marinus sicut terrestris in luto rostro proprio colligit escas": "This animal, called the sea hog, gathers its food with its snout like the land hog."¹ The Canary, the Madeira and the Azores Islands are well represented. Legends are here inscribed on either side of a broad scroll, wherein the author refers to his work and gives the date of its composition, which legends are almost illegible. One of them seems to read: "Hoc mare dicitur oceanus qui a cosmographis infinitus descriptus undique terram praeter eius partem fere[?] quartem[?] hic configuratam cooperit. Quod mare a vi lunari commotus diebus singulis lunaribus circa terram fluit et refluit ut ait Albertus in naturalibus": "This sea is called the ocean which, according to cosmographers, stretches out infinitely in every direction, covering the earth except about a fourth part here laid down. This sea, disturbed by the force of the moon, ebbs and flows around the earth every lunar day, as Albertus says in his Natural History." It appears from this that Albertus Magnus was one of our cartographer's authorities. The other legend for which Professor Fischer failed to get an intelligible reading asserts that: "Ultra hanc equinoctialem

¹ "The most numerous and largest of all these animals are those found in the Indian Seas." Pliny, Book IX, Chapter II. Following this is a list of

the animals, with a description, none, however, exactly corresponding to the one here represented.

lineam tradit ptolemeus terram incognitam sed pomponius atque plures tolentes dubium an sit possibilis nautarum transitus ab hoc loco ad indos narrant multos per has partes ab india in ispanias et . . . transisse percipue pomponius capitulo ultimo": "Beyond this equinoctial line Ptolemy records an unknown land, but Pomponius, and in addition many others, raising a doubt whether a voyage is possible from this place to India [the Indians], say that many have passed through these parts from India to the Spains, and . . . especially Pomponius in his last chapter."

Professor Fischer observes that from this legend one may conclude that in Italy, and perhaps yet more in Portugal, there was considerable interest in the question of a sea route to India.¹

¹The question as to whether the Portuguese, under Prince Henry the Navigator, made search for a waterway to India is one concerning which much has been written. That such search was made may be called the popular view of the purpose of Portuguese West African exploration in the prince's day, the belief being entertained that the India sought was the India of the far East. This view is certainly not well supported by such knowledge as we now possess, it being rather the result of reading into the scanty written records of that early day the story of the plans and purposes of a later day.

Mr. Vignaud, in his *Toscanelli and Columbus*, Chapter III, and in his *Histoire critique de la Grande Entreprise de Christophe Colomb*, Vol. I, Chapter IV, presents conclusive arguments that the goal of Portuguese endeavor before 1474 was not the India of the far East, but, if India at all, it was the India of Africa, that is, Abyssinia, which at that time was so generally held to be the land of Prester John.

Azurara, in his *Chronicles*, Chapter XVI, referring to the return of Antam Gonçalves and his plans for yet greater achievement, states that "the Infante answered all this and said that he was obliged by his offer, and that he not only desired to have knowledge of that land, but also of the Indies and of the land of Prester John if he could." Beazley, in his *Dawn of Modern Geography*, Vol. III, p. 418, states that "it was with an almost constant hope of coming upon Prester John and the true believers of his Empire that the Lusitanians skirted West Africa." One is unquestionably nearer the truth, as the map records of the period indicate, in asserting that the prime object of Portuguese enterprise on the west coast of Africa was to explore new regions, to plant trading-posts, to extend commercial interests, and to spread the Christian faith. A desire to find a waterway to the Indies of the East was the ultimate and altogether logical outcome of long years of West African exploration. It was not the original purpose.

In the representation of mountains of Africa we find the Atlas range, which stretches along the north coast eastward to the Great Syrtus, a second range west of Egypt, stretching in a southerly direction. In the extreme south of the continent the "Mountains of the Moon" are represented as snow-covered, with the following explanatory legend: "*Isti sunt montes lune qui lingua egiptiaca dicuntur gebelcan a quibus nilus fluvius oritur atque estatis tempore dissolutis in apso nivibus maior affluit*": "These are the Mountains of the Moon, which, in the Egyptian language, are called Gebelcan, in which mountains the river Nile rises, and from which, in the summer-time, when the snows melt, a very large stream flows." This legend gives us the Arabic name for the Mountains of the Moon as "Gebelcan," which is doubtless the same as Gebel Camr. The name Djibal-alqamar, Mountains of the Moon, according to a conjecture of Kiepert, was derived in Ptolemy's time erroneously from Djibal-qomr, Blue Mountains. This seems to refer to the snow-peaks of the Kilimanjaro and Kenia, as seen from a great distance, which mountains send their waters toward the interior of the continent. It was doubtless through Arabic merchantmen that the Alexandrian geographer derived his information, on a visit to the east coast of Africa. Late even in the nineteenth century the Mountains of the Moon appear on our maps.¹

The hydrography of Africa is likewise Ptolemaic, especially that which pertains to the Nile. The Mountains of the Moon are the source out of which its two branches flow. The Blue Nile, however, is represented according to most

¹ Ptolemy's theory concerning the source of the Nile was more nearly correct than was that of any other geographer until the discovery of Lakes Victoria and Albert Nyanza.

recent information from Abyssinia; this river, uniting with the Atbara, forms one river which flows out of a large lake, in which an island is represented. Meroë, however, does not, as with Ptolemy, lie on a river island, but on a river peninsula. Even the irrigation canals, which lead out from the Nile in Nubia and Egypt, are represented by our cartographer. On an island in a lake of Abyssinia there appears to be a floating house, and near it the legend: "*In hoc lacu insula est tenis que lucos silvasque ac grande appollinis templum sustinet natat et quocumque venti agunt appellitur*": "In this lake there is an island, Tana by name, which contains forests and groves and a great temple of Apollo. This island floats and is driven in whatever direction the winds blow." This legend appears to be taken almost verbatim from Pomponius Mela, who says concerning a certain region in Egypt: "*In quodam lacu Chenis insula lucos silvasque et Appolinis grande sustinens templum natat et quocumque venti agunt pellitur.*"

A monastery, or a city, with numerous towers over which a cross is drawn, is located in the lake and bears the name Maria of Nazareth. The lake is undoubtedly Tana, Strabo's Psebo and Ptolemy's Coloe. It may be noted that even to-day the banks of this lake, as well as its islands, are the site of numerous churches and monasteries. The large island Dek, or the Holy Daga Island, dedicated to Saint Stephen, is now inhabited by hermit monks, and to it the outside world is not admitted. About the time our cartographer produced his map he could well have received excellent information concerning Abyssinia. In 1439 Pope Eugenius IV named an apostolic delegate to that region, and sent a letter to Prester John, the ruler of Abyssinia; and we also learn that an Abyssinian ambassador appeared at the Council of Florence in the year 1441.

In support of the statement that our cosmographer was well informed concerning Abyssinia may be found the representation of a war elephant carrying a tower filled with armed men. A legend here reads: "Isti belaurum castelatorum acie ordinata preliantur": "These people fight in a battle-line of castled beasts."

That the Christian Abyssinians made use of the elephant in war during the middle ages, Marco Polo relates, who, in his travels, had gathered considerable information concerning that region of Africa.¹ It was the Abyssinian Christians whom the cosmographers, at the close of the fourteenth century, had to thank for information concerning their country.

On the Catalan world map of 1375 a war elephant is also represented in Nubia, and the same picture appears again in India with the addition of a driver. Marco Polo ascribes the use of war elephants to the inhabitants of Zanzibar,² while Masudi expressly states that their land was rich in elephants, which, however, were neither tamed, nor were they used in any manner.³ There can be no doubt that in the lands on the west side of the Red Sea elephants were captured by the Ptolemies in great numbers, tamed and

¹ In a reference to the wars of the King of Abyssinia, Marco Polo says: "He straightway caused the array of his horse and foot to be mustered, and great numbers of elephants with castles to be prepared to accompany them." Yule: *Marco Polo*, Vol. II, p. 429. Conti, referring to the elephants of "Macinus" (probably Siam), says: "This province . . . abounds in elephants. The king keeps ten thousand of these animals, and uses them in his wars. They fix castles on their backs, from which eight or ten men fight with javelins, bows and those weapons which we call cross-bows."

Here follows a description of the manner of capturing these elephants, which is taken from Pliny, Book VIII, Chapter VIII. See *Hk. S.*, pp. 11, 12.

² "They have no horses, but fight upon elephants and camels. Upon the backs of the former they place wooden castles, which carry from ten to sixteen persons armed with lances, swords and stones, so that they fight to great purpose from their castles." Yule: *Marco Polo*, Vol. II, p. 423.

³ Marco Polo must have been incorrectly informed relative to the elephant in Zanzibar.

made use of in war, as Ptolemy Euergetes testifies in the inscription from Adulis that he employed Troglodytic and Ethiopian elephants against those from India. As African elephants were captured by the Carthaginians in the Atlas region and employed in war, so, at the same time, in Nubia and northern Abyssinia, they were captured and made use of by the Ptolemies. Cosmas also affirms in the sixth century that the Ethiopians did not at all understand the art of taming elephants; that, however, they captured the young and reared them;¹ and Yule himself asserts that late in the middle ages the Nubians tamed elephants, and that they gave them to the Mohammedan rulers of Egypt as a part of their tribute.²

Not only does there appear to be some confusion relative to the representation of the Nile River, but the hydrography of other parts of Africa is very confusing. A river empties in the Syrtus west of Masrata, which comes from a lake in the neighborhood of Wadam, and which is called by Edrisi Palmenoase, a river five days' journey south of the Great Syrtus. It is difficult to determine whether by this Wadi Schegea or Wadi um el Cheil is to be understood. In Tunis a river is made to empty into the Mediterranean, which is probably the Medscherda, with one branch emptying on the north side of the Gulf of Tunis, and with another into the Gulf of Hammamet. A similar river, dividing into two branches near its source, empties into the sea in Algeria east and west of Algiers, and a smaller one east of Ceuta. If our cosmographer, in the well known regions, represents somewhat arbitrarily his watercourses, we can certainly expect to find this in the less known regions. It

¹ See Cosmas Indicopleustes: *Christian Topography*, tr. by J. W. McCrindle, p. 58.

² Yule: *Marco Polo*, Vol II, p. 434.

appears impossible to identify the rivers emptying on the west side of Africa. With some degree of certainty we may identify the Wadi Draa, represented as flowing through many lakes and emptying south of Cape Bojador. Whether the rivers emptying still further southward represent the numerous rivers which empty south of Senegal and Cape Verde, it is not possible to determine. Perhaps the author intended the more northern and the larger one as the Senegal. The legend, "*Hic fons est a media die ad mediam noctem buliens, alia diei et noctis parte regit et hy montes continue ardent*," applies to the middle of the Atlas range. It represents a classical survival, and may be found on other maps of the middle ages, as on the quadrangular Anglo-Saxon world to be found in a Priscian Codex of the tenth century, where a mountain is represented with the legend, "*Hic dicitur esse mons super ardens*." On the world map of Rainulph Hygden of 1360 we find, "*Garamantes, hic fons de die calescens, nocte frigescens*." These representations, in part taken from Isidore, owe their origin to Pliny¹ and Herodotus. They seem to apply to the oasis Siwa, in which, according to recent travelers, the temperature of many springs is said by the natives to be lower in the daytime than in the night,

¹ Pliny, in Book II, Chapter cvi, which treats of the "Wonders of fountains and rivers," says that "in this country of the Troglodytae, what they call the Fountain of the Sun, about noon is fresh and very cold, it then gradually grows warm, and at midnight becomes hot and saline." This statement of Pliny may have been taken from Herodotus, who states, Book IV, section 181: "These [the Ammonians], as it chances, have also other water of a spring, which in the early morning is warm; at the

middle of the morning cooler; when midday comes it is quite cold, and then they water their gardens; but as the day declines, it abates from its coldness until at last, when the sun sets, the water is warm; and it continues to increase in heat still more until it reaches midnight, when it boils and throws up bubbles; and when midnight passes, it becomes cooler gradually till dawn of day. This spring is called the Fountain of the Sun."

a deception which may arise from the fact that there is a decided difference between the temperature of the atmosphere in the desert during the day and that during the night. The reference to the perpetually burning mountain we may attribute to the passage, referred to by Pomponius Mela, taken from the *Periplus* of Hanno.¹

The reference to the character of the land in Africa and its different products is very full, attention being drawn particularly to the animals. In addition to the elephant and the crocodile, a camel is represented in the southwest, and near it a mythical animal, which may be a dragon or a basilisk, and which, according to tradition, inhabited Africa in antiquity and in the middle ages. One here recalls the description which Edrisi gives of a dragon living on an oasis to the east of Sahara, so enormous in size that it was often mistaken for a mountain. It had the form of a snake in that it crawled on the ground, but had large ears extending forward.² In the Atlas region there are also represented a giraffe, a lion and two monkeys. Even to-day, in Morocco, as in a region of the Algerian Atlas, monkeys are not infrequent, and in the middle ages may have been much more numerous. We know from the narrative of the Florentine merchant Benedetto Dei, a contemporary of our cosmographer, that they were frequently captured in Algeria, and were made an object of commerce. Three

¹ See, for an account of the *Periplus* of Hanno, with a translation, Nordenskiöld, *Periplus*, pp. 111-113. Pomponius Mela refers to this *Periplus* in Book III, Chapter x.

² Edrisi says: "It is in this oasis that one sees the dragon which is not found elsewhere. The people of this country say that it is of such an enormous size that one would take it for a large hill, and that it can swallow

a calf, a sheep, and even a man. This monster has the form of a serpent in that it walks upon its belly, but it has projecting ears, canine teeth, and moves slowly. It lives in caves or in the sands, and kills and devours any one who comes within its reach and dares to attack it." *Description de l'Afrique et de l'Espagne, trad. par R. Dozy et M. F. de Goeje*, Leyde 1866, p. 50.

human figures have been introduced to represent the political and ethnographical situation, one a turbaned Mohammedan ruler of Egypt, with the inscription "Dominus"; the other a crowned head with black hair, carrying a banner, on which is a cross with the inscription, "Presbyter Johannes Rex," denoting the Christian ruler of Abyssinia. A third figure, unmistakably a negro, in the southwest, holds a ball (?) in his hand, and is described in the following legend: "Isti sunt qui vitus habent degeneres inter eos nullum nomen est proprium et orientem, occidentem solem, dira imprecatione tuentur": "These are the people who live degenerate lives, among whom there is no distinguishing name, who behold the rising and the setting sun with direful imprecations."¹

The extreme southeastern part of Africa has the following legend: "In hac regione depinxerunt quidam paradisum deliciarum. Alii vero ultra Indias ad orientem eum esse dixerunt. Sed quoniam hec est cosmographorum descriptio qui nullam de eo fecerunt mentionem, ideo omititur hic de eo narratio": "In this region certain ones have depicted the paradise of delights. Others, indeed, have said that it is beyond the Indies to the east. But since that is a representation of cosmographers who have given no description of it, therefore an account of it is here omitted." Professor Fischer thinks this is to be understood as signifying that our cosmographer based his information on pre-Christian authors, that is, Pliny and Ptolemy, while omitting his own view concerning the position of the

¹ Pliny says: "The Atlantes, if we believe what is said, have lost all characteristics of humanity, for there is no mode of distinguishing each other among them by name, and as they look upon the rising and the setting

sun, they give utterance to direful imprecations against it as being deadly to themselves and their lands." Book V, Chapter viii. Herodotus, Book IV, pp. 183-185, is probably Pliny's source of information.

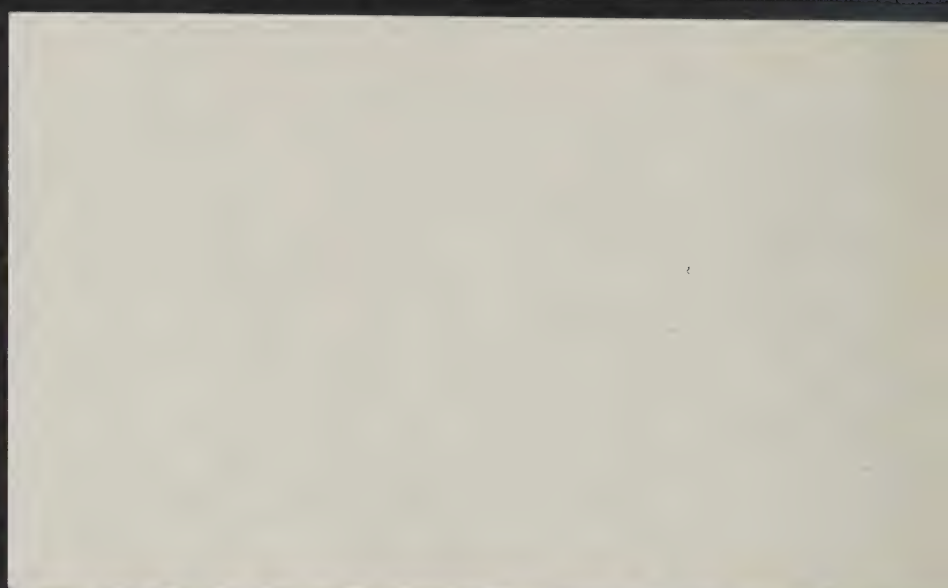
earthly paradise. Medieval cosmographers place this now in east Africa, now in east Asia, but more frequently in the latter. On the world map of the Majorcan Soler of 1385 there appears on the Upper Nile the legend, "Iste fluvius descendit de paradiso terrestri," and on the Pizigani world map the river coming from the Tana Sea, the Blue Nile, is designated as Gion, "quod est de paradiso terrestri." Andrea Bianco, Leardo and others place it in the extreme east of Asia.¹

The regional names of the map, for the most part, are taken from antiquity. For instance, the name "Ethiopia" appears six times, and in addition, in western Europe, "Ethiopia interior," and in the east, "Ethiopia Egypti." "Ethiopia" also embraces the entire southern section. Adjoining this is the Nile land, "Egyptus"; further west, "Nubia"; and to the west of Nubia is the entire Sahara region, designated as "Libia." The "Regio arenosa," that is, the desert region of Igidi, is especially distinguished. The north coast of Africa embraces Mauretania, to which "Regnum fesse" and, in part, "Regnum Trenecen" belong. Adjoining this are "Regnum Tunisi," "Barbaria" and "Cirenaica." The more important place-names are distinguished through towers and castles. On the Mediterranean, from east to west, we find "Larissa," "Alexandria," "Senara" (in the Medicean atlas, Zunara, and Visconti also gives Zunara). On the portolan charts there is always represented a large bay in the southeast corner of the Great Syrtus, which must have been an important harbor. This

¹ See the interesting treatment of the question as to the location of the earthly paradise in Kretschmer: *Die physische Erdkunde im christlichen Mittelalter*, p. 130. An elaborate representation of this earthly paradise

is to be found in the heart of Africa in the Munich-Portuguese map of about 1504. See Stevenson: *Maps Illustrating Early Discovery and Exploration*, No. 2.

Page 64, 12th line, for "Europe" read
"Africa".



may be identified as the present Marsah of the English sea charts, which is still a comparatively good shelter-harbor. It owes its origin as a harbor to a high, rocky headland, perhaps formerly an island, which extends from the southwest to the northeast and continues in a long chain of rocks. From the northeast stretches a low sand-spit forming a bay which is not well protected from the north wind, but which offers for ships of seven or eight meters draft safe anchorage. The water in a spring here is brackish and sulphurous. The bay occasionally serves ships which take on sulphur from the mines lying to the south, hence the entire Syrtus is called by the Arabs "Sulphur Gulf." On the peninsula are the ruins of a castle, and other ruins, which belong to a place formerly very large, and which, by the special importance which it seems to have on portolan charts, must have been of considerable significance in the middle ages, although we know nothing concerning it. That these ruins belong to the middle ages must be concluded from the fact that the *Stadiasmos*, which calls this peninsula Cape Kozynthion, does not speak of a castle or other place.

There follow, farther to the west, "Tripoli barbaria"; "Rasamebes," designated as a headland visible from a distance, the present Ras Makhables, with a good bay in its protection east of Descherba; "Capis," "Tunes," and an unreadable name, perhaps "Biserta"; "Taberca," which, on account of its Italian coral-fishery, is famous as the island of Tabarca; "Bona," "Bugea"; an unreadable name, perhaps "Titelis"; "Alcer," "Tenes," "Oran," "Melila," "Septa" (Ceuta). On the ocean side we find only the names "Sale," "Saphi," "Gozola" and "Buder" (Bojador). In the interior of the Atlas territory the Atlas range reaches far to the south. Here we find the following

names: "Albara" (south of Algiers), perhaps Albulæ of the ancients, known for its warm baths; "Tremecen," "Fessa," "Marroco"; farther south, a city with an undecipherable name, perhaps "Tarudant"; in Libya, that is, in the Sahara region, south of Fez, "Patano," "Tueto," "Mecara," "Calata," "Bescara," "Udan," the last two perhaps Biskra and Fez, far from their proper place. Calata is probably Edrisi's Al Cal, near Msila in the highlands of the Schotts, a significant city before the rise of Bougie, the capital city of the kingdom of the Hammaditen. Mecara may be Edrisi's Maggara in Zab. In Egypt is "Cairo"; in Nubia are "Meroe," "Ati" (?), "Talam" (?), and an unreadable name. These places, for the most part, are inserted from world maps of other cartographers.

